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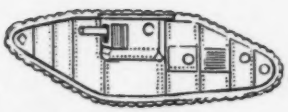

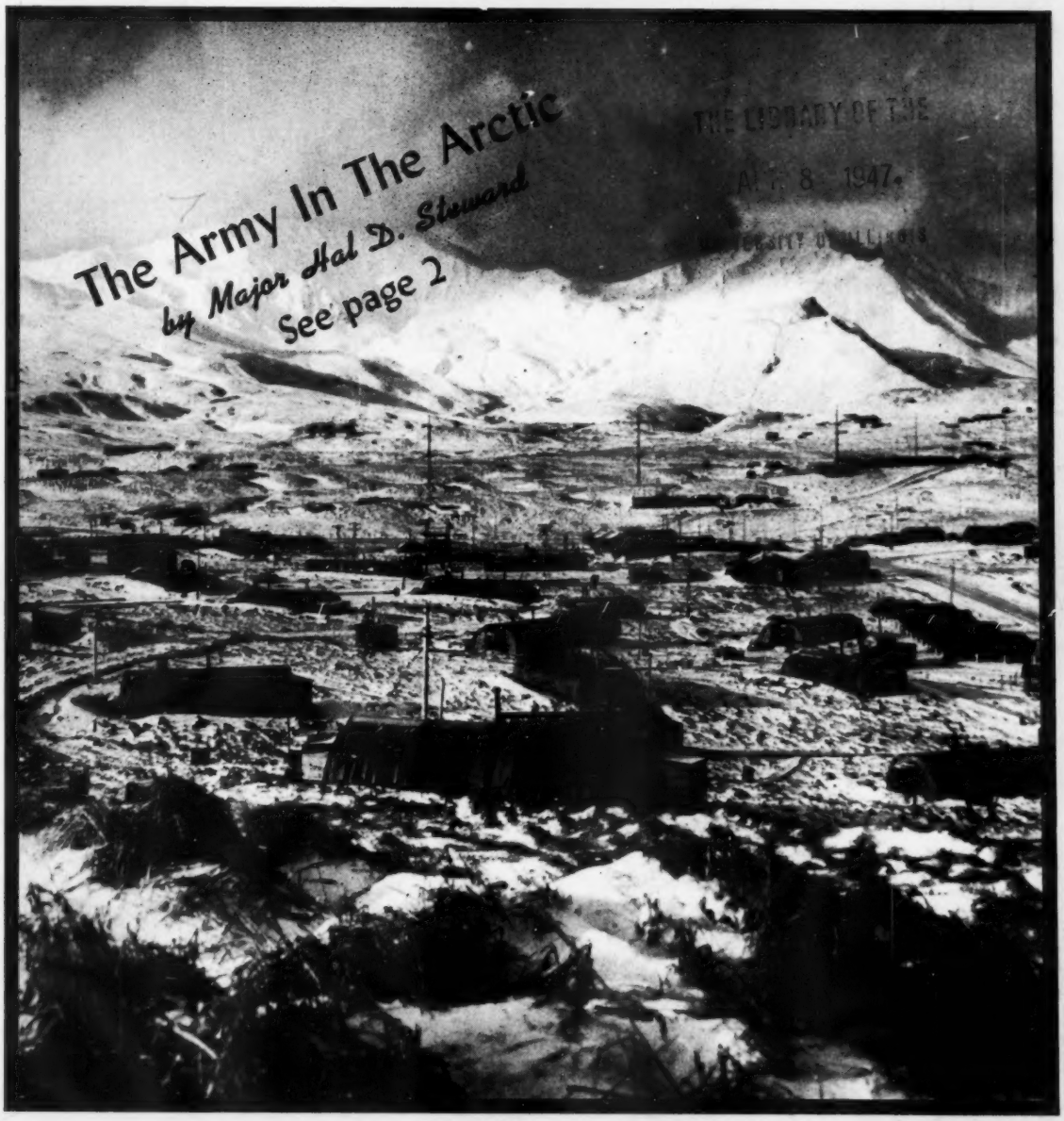

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CONTENTS

THE ARMY IN THE ARCTIC 2
By Major Hal D. Steward

TACTICAL INTERROGATION 7
By Sidney Weintraub

26TH CAVALRY (PS) BATTLES TO GLORY. Part I. 10
By Lieutenant Colonel William E. Chandler

ARMOR AND MOBILITY 17
By Colonel Hayden A. Sears

THE FUTURE OF ARMOR AS THE ARM OF MOBILITY 20
By Major A. J. Wilson

MODERN CAVALRY ORGANIZATION 23
By Captain Stuart J. Seborer

CAVALRY WITH ARMOR ON A RECONNAISSANCE MISSION 26
By Major Owen E. Woodruff, Jr.

IRISH MECHANIZED CAVALRY DURING WORLD WAR II PERIOD 28
By Captain Fergus N. Fitzgerald

JET—AAF'S NEW POWER PLANT 31
By James A. Niland

EDITORIAL COMMENT 33

ARMY EQUESTRIAN TEAM ONCE MORE IN ACTION 34
By Colonel W. H. S. Wright

OTHER BRANCHES 37

Mission and History of the Inspector General's Department 38
By Major General Ira T. Wyche

Lawyer-Soldiers, Inc. 42
By Colonel William J. Hughes, Jr.

The Air Transport Command 44
By 1st Lieutenant Robert M. Sherman

Chaplains Role in the Army 47
By Chaplain (Major General) Luther D. Miller

RELATIONSHIP BETWEEN OFFICERS AND ENLISTED MEN 48
By Colonel Hamilton H. Howze

RED ARMY DISCIPLINE 52
By Lieutenant Colonel William R. Kintner

FOREIGN WEAPONS EXHIBIT AT THE GROUND GENERAL SCHOOL 54
By Captain Frank C. Fyke

GROUND SCHOOL DEMONSTRATION ON AIR-GROUND COOPERATION 58
By Major D. H. Cowles

"OPERATION LEWISITE" DESTROYS JAP GASES AND CHEMICAL MUNITIONS 60
By Major W. E. Williamson

AN EPIC OF BRITTANY 62
By Brigadier General R. W. Grow

SPECIALIZED ARMOR 66

ARMORED DIVISION ASSOCIATIONS 68

THE BOOK NOOK 71

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THE ARMY IN THA

A FIRST R

by Major D. S

**Major Hal D. Steward, A Edit
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OPINIONS as to the practicability of armor under conditions found in the Arctic regions of the Far North differed among the army officers interviewed on a recent 10,000-mile air tour of Alaska and the Aleutian Islands that took this writer to Task Forces "Frigid" and "Williwaw" and the Alaskan Department Headquarters.

"Armor is thoroughly impractical in the Arctic," is the flat statement of Colonel Paul V. Kane, commanding officer of Task Force Frigid stationed at Fairbanks, Alaska, where temperatures drop to as low as minus 67 degrees.

But Major Myron Johnson, tank test officer at Task Force Frigid, and Captain George J. Sheets, commanding officer of Company B, 66th Tank Battalion, the outfit that is testing all armored equipment for the task force, disagree with Colonel Kane. They both say that with improvements and modifications on present American tanks they can be made successful in the extreme cold weather areas.

At Task Force Williwaw on Adak Island in the Aleutians, Major J. H. Cronin, chief of armor test section, states that tanks have been found unsatisfactory because they quickly bellydown in the soft Aleutian tundra.

Tanks and other armored equipment, however, are not the only pieces of military equipment that are being found in need of modifications for efficient use in the Arctic regions. It has been discovered that equipment, especially vehicles, begin to fail at 40 degrees below zero.

Sixty degrees below zero seems to be, from Task Force Frigid tests and observations, the breaking point for soldiers in standing the severe cold. After a temperature of minus 60 degrees is reached they lose efficiency with increasing pace. According to Colonel Kane, Frigid commander, a man loses his efficiency at the rate of two per cent for every degree under zero. This means, that at minus 50 degrees and below, a man needs assistance in taking care of himself.

Upon arriving in the extreme cold areas of Alaska soldiers must go through a mental conditioning to erase the fear of cold. This, according to Colonel Kane, is important.

One tank officer assigned to Frigid spent six hours in a tank at sub-zero temperatures and he said his efficiency at the end of the period was nil. In the Arctic, no person has yet been able to stay in a tank for more than six hours. A person cannot remain in an M-4 Tank (Sherman-medium) for more than about 10 minutes in sub-zero weather without beginning to freeze. On one test when the outside temperature was only seven degrees below zero, the temperature inside the M-4 was comparable to minus 42 degrees because of the wind chill factor.

Task Force Frigid is charged with testing equipment and clothing in the extreme cold, while Task Force Williwaw has the different job of testing equipment and clothing in the wet-cold weather. Ladd Field at Fairbanks, where Task Force Frigid is located, and Adak Island in the Aleutians, home of Task Force Williwaw, are considered to be ideal for these important tests.

Tanks and armored vehicles can move over the roads and trails at Adak in good fashion, but the driving rain and snow interfere with the gunner's observation. The M-24 light tank is considered by Williwaw tank officers to be best suited for Adak operations, while the M-26 tank is considered the worst for mobility and movement. However, for general purpose vehicles, the LVT-4 (Buffalo), Jeep and Weasel are the best.

In the Frigid tank company, there are 178 enlisted men and six officers. The company has all the organic tanks of a normal tank company plus four half-track vehicles of an armored infantry platoon, 21 test vehicles, and a maintenance section that has one two-and-one-half-ton truck, an M-32 tank recovery unit, a 10-ton wrecker, a quarter-ton and a three-quarter-ton truck, a M-3 half-track, and a M-26 A1 tank retriever.

So many modifications are necessary on present armored vehicles to make them practical for operations in extremely cold conditions that it is the belief of many Frigid armored officers that mechanized vehicles should be completely redesigned.

HARCTIC

ST) REPORT

jo D. Steward

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nth 10,000-mile air tour of
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s th ll-length magazine article
her e task forces.

The author, dressed in heavy Arctic clothing, stands next to a Weasel, which has proven so far to be the most efficient vehicle in the Far North.

Gun turrets on M-4s, M-24s, and M-26s freeze at about minus 35 degrees. Ammunition is difficult to handle inside a tank in the extreme cold. Human flesh will burn if held too long on metal. Clothing is too bulky for tank crewmen, especially for the driver. Tracks and bogey wheels become frozen and immovable after 10 hours of exposure in the extreme cold. These are just a few of the difficulties being encountered by armored men attached to Task Force Frigid.

A tank that will operate in the extreme cold areas, according to Captain Sheets, should have the following requirements: 1. lubricants that will not freeze, 2. greases that will not freeze, 3. a better grade of gas with a lower flash point, 4. a battery that will take a charge at extreme low temperatures, 5. a heater in the tank that can be adjusted to whatever temperature is desired, 6. clothing that is less bulky for the crew members, 7. all seals made of material that will stand the cold down to minus 70 degrees or lower, 8. the M-26 needs a heavier engine, 9. tank crewmen must be extremely skilled in the performance of their duties.

Maintenance units are hard to move in the severe cold weather experienced in the Far North. The present authorization of mechanics in a tank company is too inadequate for efficient maintenance. It should be increased at least three times. Organizational spare parts should be increased for more unit assemblies. The unit assemblies should be winterized at the factory where they are manufactured.

It is the opinion of Captain Sheets that each tank operating in extreme cold areas should be equipped with a wanagan on sledges that the vehicle can pull. The wanagan should be about 10 feet long, eight feet high and eight feet wide. Inside the wanagan would be folding cots, a heater, a table, and stowage cabinets. This would provide shelter for the crew. During an actual engagement the wanagan would be disconnected. After the combat action ended one tank could pull all the wanagans of the unit to the next selected position.

Most tankmen assigned to Frigid desire a ration on the order of the C or E ration that would have a pleasing flavor. They also believe that it is absolutely necessary to have an organic unit with each company to thaw out and prepare the food. It now takes 40 minutes to thaw out the meat component of C or E rations. Insulated containers to protect the food from the cold should be provided. When exposed to the Arctic cold, food freezes solid before a soldier can eat it.

Frigid officers estimate that they spend 90 per cent of their time fighting the elements.

Ice fog created by gun blasts makes it impossible for the gunner to observe his fire from a tank turret. At the present time a tank crewman must observe the tank's fire from about 20 yards to the flank.

Electrically heated suits for the tank crew, such as the air force now has, may be the answer to combat cold as far as armored personnel are concerned.

There is much disagreement among Frigid officers as to whether armored vehicles could operate effectively over the terrain found in Arctic regions. Many maintain that the lack of road networks and deep snow would limit the mobility of armor to a great extent.

Others take the stand that the ground is hard and flat enough to operate without networks of roads. But, all agree that the tanks must first be modified so that they can operate mechanically before tests on mobility and maneuverability are conducted in the Arctic.

No satisfactory method of evacuating casualties in the extreme cold areas has yet been discovered. If a wounded man was allowed to lie in the Arctic cold for more than a few minutes he would in all probability freeze to death. Some means of evacuating casualties instantly must be discovered.

While in Alaska this writer observed on January 24, 1947, the first tactical maneuver of all combined units of Task Force Frigid.

It was clearly emphasized in the tactical problem that time factors in assembling squads, platoons, and higher units are different than any place else in the world. The problem was worked out according to schedule but much slower than it would have been in a temperate zone.

Tanks in the tactical problem traveled at only four miles per hour; ordinarily they travel at about 20 miles per hour under favorable conditions.

Frigid has a policy that men are taken in from the field when their body temperature drops to 96 degrees from exposure to the severe cold. A few had to be sent in during the tactical problem that lasted three hours. The Germans have recorded body temperatures of 80 degrees of men still living. However, recovery from such low body temperatures is rare.

"The tests of weapons and equipment we are conducting at Task Force Frigid will prove a challenge to American industry," says Major Milton Price, plans and training officer of the task force. He was explaining that much of the standard army equipment is being observed when in use in Arctic weather. "The equipment is beginning to fail us. Much of it cannot be used in the Arctic. But if industry can supply the kind of equipment we need, we can supply the kind of men who can use it. The men here are not failing."

A strong "buddy system" is in force at Frigid whereby men pair off and watch out for each other. They watch one another's faces for signs of freezing. They never venture away from camp alone.

Wardrobe of the average soldier serving with Frigid outdoors is: long woolen underwear (over which you pull on two pairs of trousers); light woolen socks, two pairs of heavy ski socks, a pair of felt socks and a pair of mukluks (knee high canvas boots); a woolen shirt or two, a sweater and finally a heavy pile parka (coat with hood); two pairs of gloves and a heavy fur-lined cap to protect your face and head.

"I can't imagine moving masses of troops across this country by land," is the statement of Major General Howard A. Craig, Alaskan Department commander, who believes that airborne troops only could be successful.

This same opinion is shared by Colonel Kane, Frigid commander.

Movement over terrain is the big job confronting Task Force Williwaw on Adak Island. This task force is having little difficulty with the firing of its weapons,

This unimposing row of tents serves as field headquarters of Task Force Frigid when it is maneuvering on the barren wastes of the Arctic.

Signal Corps Photo

but keeping troops warm and dry is a problem it has not yet solved.

It is not possible to move such artillery pieces as the 155mm rifle ("Long Tom") off the roads because they become bogged down in the mud immediately. This is being solved by dragging the large guns on sledges across the mud and wasteland.

Only about two per cent of Adak, where temperatures seldom fall below freezing, according to Colonel A. M. Gurney, commander of U. S. troops on Adak, is usable for military installations. The remainder is a wasteland of mud, marsh, rocks and rugged mountains.

Small arms need more lubrication in the Aleutians than they do in temperate zones. Too much clothing is necessary to keep the men warm and dry. No adequate shelter has been devised for service in the field on Adak. This is also true at Frigid. Tentage and shelter in the opinion of Williwaw officers will probably need to be completely redesigned.

Medical evacuation presents a problem in the Aleutians as it does at Frigid. The present methods used on Adak are unsatisfactory because they require too much personnel and time. A method is being worked out whereby a Weasel can be used as an ambulance.

There is no difficulty in water purification on Adak. Forward aid stations as yet have no satisfactory shelter. Work is being done, however, on an evacuation sleeping bag designed to keep a casualty warm. Electrically heated blankets are also being experimented with.

The Arctic today presents problems to the American Army that it has never experienced in its battle history.

All troops will need a long period of training in cold weather operations (at least three months) before being sent to the Far North for duty. It is the opinion of Frigid and Williwaw officers and men that a soldier could not move directly into a severe cold weather area and be expected to perform efficiently in actual combat without proper training.

Normal body functions in the Arctic are performed at risk. A deep breath during exertion or coughing may result in frostbitten bronchial tubes. Sweat may freeze. Elimination involves complications and discomfort.

The problem of keeping warm in moving vehicles is being faced by Frigid soldiers. There, lack of body movement plus tight quarters in the covered Jeeps and Weasels cause discomfort.

Carbon monoxide gives great trouble to persons riding in closed vehicles in the Far North. This difficulty must be conquered.

Communications men have a tough job in the Arctic.

Two Task Force Williwaw tanks are shown bogged down in the tundra found on Adak Island in the Aleutians. Such terrain as this has slowed down task force operations.

Signal Corps Photo

The laying of cable must be done by hand in deep snow and violently cold temperatures. Finding and repairing breaks made by animals, tanks and other accidents is a mean job.

Mechanics, making emergency repairs in the field, must take off their large mittens (and often the wool glove) in order to reach into a tight place and make an adjustment. Cold tools frostbite the hand, and while the hand is numb it receives no warning of burns from hot metal until the damage is done.

Standing around in the Arctic is hard work. The clothing issued at the present time is warm enough to keep a man from freezing while he is moving, but when he stands still for a long period he is subject to torturous pains from the extreme cold.

Because of the dryness in the Arctic, fires are a great hazard. Every precaution must be taken against them. If a unit goes for a whole week without having a fire they consider it a record.

Alaska is lacking in supply lines and communications. This would present the Army with one of its biggest problems, in the event of another emergency. A single track railroad that isn't expected to last more than one or two years longer without extensive, expensive and probably uneconomical expenditude of labor and materials, is today attempting to supply the 80,000 people of Alaska. During this writer's visit to Fairbanks the train had been delayed for two weeks because of snowbanks and landslides.

Circumstances (many beyond the control of Task Force Frigid) have prevented the unit from getting the necessary equipment to carry out its program successfully. The recent shipping strike on the West Coast did much to hold up supplies to Frigid. Some of its equipment is still held up somewhere along the line. The task force is scheduled to leave Fairbanks sometime in May, and because much of the equipment hasn't reached it, many cold weather tests may be left uncompleted.

Some Frigid officers are of the opinion that the Quartermaster Corps should have a clothing alteration unit attached to the task force so as to make the necessary adjustments on winter clothing as recommendations are made and proven.

Colonel Joseph D. Raney, commander of Williwaw, stated in an interview, "Adak is ideal terrain for cavalry operations, especially in the use of pack animals."

The Williwaw commander had requested that a pack animal unit be assigned to the task force but the request was turned down because of lack of time. The task force is slated to leave Adak sometime in March or April.

Military strength of Frigid is some 1,500 officers and men, while Williwaw has just under 800.

From the standpoint of military operations because of its distance from the United States and the lack of transportation facilities (other than air and water) Alaska may be considered an island. The Alcan Highway provides the only existing through land communication with the Continental United States. This highway will require considerable improvement and extensive continuing maintenance if used as a supply route.

Colonel Frank A. Bogart, director of logistics for the Alaskan Department, indicated to this writer that the Alcan Highway is primarily of value as a means for emergency supply. Running from Edmonton, Canada, to Fairbanks, Alaska, through hundreds of miles of muskeg which is entirely uninhabited, it is now in daily use, even in the recent sub-zero weather.

"To supply Alaska by truck over the Alcan Highway is not economically feasible," said Colonel Bogart. He stated that The Alaska Railroad ran a convoy of trucks over the Highway during the recent West Coast shipping strike. The shipping costs were so high that the use of the route would be prohibitive from a commercial standpoint.

"Rail connection with the United States through Canada is possible," says Colonel Bogart. "Such a route has already been surveyed." He could give no other information orr the proposed rail link with the U.S., but said that in his opinion the railroad would be primarily of strategic value and would have to be built and initially maintained by the government, since at first it would not be commercially profitable.

The land area of Alaska is about one-fifth the size of the Continental United States, but because it is comprised of numerous widely scattered islands it occupies a relatively larger area of the earth's surface. The distance from Juneau to Attu is approximately the same as that from Savannah, Georgia, to Los Angeles, and from Juneau to Point Barrow is about as far as from Fort Worth, Texas, to Duluth, Minnesota.

Task Force Frigid has developed specially constructed ice bridges for moving large vehicles over ice and snow. Here a M-26 tank rolls across Tanana Creek near Fairbanks, Alaska, without difficulty.

Signal Corps Photo

Tactical Interrogation

by Sidney Weintraub

Interrogation played an important part in the U. S. Army Intelligence system in World War II. Divided into two classifications, strategic and tactical, the bulk of our effective interrogation was done at division, regiment or even battalion level. Strategic interrogation cannot compare to the value of that done right at the scene of the action. The author of this article was an interrogator assigned to Headquarters Seventh Army and later to the 12th Armored Division in Europe. His approach to the subject of tactical interrogation is a practical one.

NAME, rank and serial number." Every American soldier had that impressed upon him time and again, but German interrogators wormed out far more than that basic information. The German army had the same training, but American interrogators almost always managed to get more information than that. A comparison of the interrogation of both armies would undoubtedly show that the American system was by far the superior.

The United States was fortunate in that many of the most intelligent of the Germans were forced to leave Nazi Germany. These refugees formed the nucleus of the United States prisoner-of-war interrogators. Germany had no such men. Our numerical superiority of men who knew the enemy's nation and language gave us an advantage that the army was quick to utilize.

Interrogation was broken down into two large classifications, either strategic or tactical. Generally, questioning done at corps level or higher can be considered strategic, and division downward as tactical. Germany, limited in its number of trained men, usually had only strategic interrogators. The bulk of our effective interrogation was done at division, regiment or even battalion level. Strategic interrogation cannot compare to the value of that done right at the scene of the action.

The purpose of strategic interrogation, as the name implies, is to gather information about broad plans of strategy. An interrogator at army headquarters is interested in order of battle of the enemy, troop morale and the latest weapons in use. The man at regimental headquarters wants something of a far more immediate nature than that. His questions are likely to be "How many men are there in your unit?", "How many machine guns have you got?", "Where are your machine guns, antitank guns set up?", "Where are your mine fields?", "How many 88mm guns do you have and where are they?" and so forth. Information garnered by a tactical interrogator can be immediately turned into value by the front-line troops. Morale and order of battle information will be gathered only insofar as it may be valuable in securing tactical information. A regimental interrogator will leave strategic information to division, corps, and army men.

Techniques of tactical interrogation differ from those employed by men at higher headquarters. A regimental interrogator pits his training and his wits against the elements of time, place and his prisoners' resolve to keep silent. He must gather his data as quickly as possible. A man at army may have days to get what he wants; at regiment you have only minutes. The situation is dynamic and stale information is past history. The 88mm gun may have been behind that farmhouse 20 minutes ago, but that does not guarantee that it is still there now. The multitude of tricks and techniques developed by regimental interrogators are for getting information and getting it accurately and quickly.

Probably the best method used by tactical interrogators where prisoners were reluctant to talk, was the

show of knowledge. Psychologically, this is extremely effective and it does not take too much time. When speaking to a prisoner, an interrogator will take notes on the man's unit—jottings not important enough to incorporate into a regular report, but extremely valuable when he speaks to another prisoner from the same unit. Prisoner after prisoner is amazed when you tell him the name of his company commander, his platoon leader and let slip the nicknames of the various men in his platoon.

One of the best and most amusing instances of show of knowledge that I ever saw occurred around Christmas of 1944 on the Seventh Army front in Alsace-Lorraine. The Germans of this particular unit had received a special Christmas meal consisting of noodles and cheese. The only fault with the noodles was that they were so cold when they came that the men had to use their forks as ice picks in order to have their meal. The interrogator had picked up this information from a prisoner the night of Christmas. The next morning he was questioning a prisoner from the same unit, a prisoner who was somewhat reluctant to talk. The interrogator learned the man's unit from his Soldbuch (all German soldiers carry a Pay Book with them and it contains much information about the man, including his unit) and immediately recognized that he had an opening wedge. He casually asked the German how he had enjoyed his Christmas noodle meal. This struck a familiar chord and the prisoner started to gripe in the manner of all soldiers. When the prisoner left the interrogation room he had left much valuable information behind.

Another bit of incidental intelligence which stirred up griping and brought forth much data occurred when the interrogator received some information about a company commander of one of the units in the line. The men didn't particularly like this officer as he was never in evidence while the shooting was going on. A master sergeant who was being interrogated stuck to name, rank and serial number. Casually, the questioner asked when the prisoner had last seen his captain running towards the rear. The sergeant started to curse and began to detail incidents of how his captain always managed to be somewhere else. The interrogator directed the man's griping and was able to submit a very valuable report.

The show of knowledge is only one of the methods used. The important factor is to get the prisoner to start talking—talking about anything at all. A little skillful handling will turn mere conversation into valuable military information. A prisoner's accent will tell you from what section of the country he is. (The Soldbuch will usually tell you the exact town.) Most interrogators knew Germany and they could often display a familiarity with the streets, buildings and landmarks of the prisoner's home town. The two men can thus find a common ground and before the prisoner realizes it, he is discussing military topics.

I never saw an American interrogator use force in order to make a prisoner talk. He may have threatened, cajoled, warned and verbally frightened him, but he never hit the prisoner. Violence was generally unnecessary. Anything short of actual violence is legal. In fact, practically every German prisoner reminded the interrogator of the specific rules of the Geneva Convention.

When we entered the last war, most officers were unfamiliar with prisoner-of-war interrogation and, as a result, placed little value in it. As soon as a division commander had an interrogation team for a short while, he realized how valuable a source of information it was to him. Not too long after we were in the war, most commanders were clamoring for interrogation teams.

The interrogator was a highly trained man. He spoke the language of the enemy fluently and knew the German habits. He knew the enemy soldier slang and idiom. The interrogator knew the German army, its organization and composition, better than the American soldier knew the organization of his own army. He knew the enemy's weapons, could recognize them by sight and often by sound. He was familiar with the internal politics of Germany and knew the organization of the SS and SA. When a man from a specific division was captured, the interrogator knew just what regiments and battalions were part of that division. When an artilleryman was captured, the interrogator knew the normal weapons of that unit, knew just how many of them that type of unit had and knew just what the effectiveness of each artillery piece was. In short, he knew the Germany army and Germany.

Each interrogator was familiar with American military maps as well as those of all other nations on earth. He knew the signs and symbols used on the enemy's military maps. This was extremely valuable as maps were often found on the person of prisoners and the interrogator might interpret them better than the prisoner himself. In addition to maps, every interrogator knew how to use aerial photographs. Aerial photographs were invaluable in tactical ground forces interrogation. The prisoner might give you enough information to place an 88mm gun on a map, but the aerial photograph enables you to pinpoint it. A prisoner might say that a weapon was behind a house and the map might show two houses in that same area. But the photograph gives you an opportunity to accurately describe both houses and learn definitely to which house the prisoner is referring.

During the fighting along the Siegfried Line, most interrogators had aerial pictures of the entire front on which his unit was engaged. By use of these pictures he could often mark off the exact spots of various emplacements. The photograph is invaluable in that it blows up small areas which a map can only show in outline.

Some of the methods used in preparing prisoners for interrogation are interesting. Let us suppose that five prisoners are brought in for questioning. Only one man

will be interviewed at a time because prisoners will rarely talk while comrades are near by. What is done immediately is to separate the officers from the enlisted men. It might also be desirable to separate the noncommissioned officers from the enlisted men. This segregation is done for various reasons. Psychologically, it is helpful in inducing men to talk when they see no superior officers. More important is the fact that officers in the German army were generally more security conscious than enlisted men. If they were left together, the officer might give the men a little pep talk and ruin them as sources of information. When the actual interrogation is done, the officers will generally be held until some basic information has been secured about the unit. In that way, the interrogator can put up a wonderful show of knowledge.

Let us further suppose that, instead of five, fifty prisoners were captured at once. The tactical interrogator has no time to question all of them, but he does want to speak to representatives from all the units among the prisoners. Once again he would separate officers from enlisted men. He would then, as quickly as possible, try to separate the men according to units, usually by company. There were various ways of doing this, from merely yelling the command "Line up by companies" to having one of the Germans do it for you. This latter method is a very efficient one and can be extremely rapid. Pull out the highest-ranking noncommissioned officer, explain to him exactly what you want, and have him do it for you. What ordinarily follows is a loud, booming voice to which the prisoners hop. Once the prisoners are lined up by company, the interrogator can choose likely prisoners from each unit to interrogate.

The interrogator is not as interested in a stupid prisoner as he is in one who appears to be fairly intelligent and observant. While the stupid man may talk more freely, he is not as likely to have as much information or be as accurate about his information. Accuracy is a vital factor and data received from a single man cannot usually be relied upon in itself. The interrogator tries to verify all information.

Tactical interrogation was done under a variety of conditions. Since the interrogator is with the front-line troops, he cannot always secure the ideal room in which to do his work. The ideal is a room not too far from headquarters so that any valuable information can be passed on immediately. The next best bet is anywhere where you can talk to the prisoner without too much interference or interruption. This might be a tent, the side of a road, the hood of a jeep or truck, or simply a field.

The queries are directed by what the G-2 wants to know and, of course, by what the prisoner is likely to have knowledge of. There are certain basic things which every intelligence officer wants to know. He would like to know the unit opposing him, its strength, weapons and dispersion along the front. These items will usually be asked in direct questions. Naturally, a prisoner from an artillery unit would not be asked the same questions as one from an infantry unit or one from a signal outfit. There is certain material that each would be expected to know, and the interrogator frames his questions to arrive at that information as quickly as possible.

How freely did the German prisoner give information? As I have already indicated, the skilled questioner almost always managed to extract a good deal of information, even from the most security conscious of prisoners. Willingness to talk varied with the ups and downs of warfare. During the American advances across France, most prisoners talked quite freely. During the Ardennes offensive, when German troop morale was somewhat higher, prisoners became quieter. From about February 1945 to V-E day practically every prisoner spoke freely.

Similarly, the value of tactical interrogation varied with the shifting of battle. During a rapid advance, interrogation, although still valuable, was not as important as during a temporary lull in the forward advance. The reasons for this are self-evident. During an advance a good deal of information obtained would be past history by the time it was disseminated. During a quiet period, information remains valuable longer. After the original landings in France, but before the rapid advance across that country, there was an extreme need for trained interrogators. During the month of April 1946, just before the war in Europe ended and prisoners were being taken by the thousands, there was little need of tactical interrogation.

Interrogators did not always limit themselves to questioning soldiers. Very often, especially in friendly countries such as France and Alsace-Lorraine, civilians would be valuable sources of information. During the fighting in Lorraine, an interrogator with a combat command of an armored division received some information from a native as to the extent of the German preparations there. He had been in the area for a long time and had observed the German activity. His information seemed to indicate that, if the proposed plan of attack were followed, one American division would be mousetrapped between two German divisions and division artillery. The interrogator quickly passed this information to the S-2 of the combat command, who directed it to the G-2 of the division. The facts seemed so valuable that the interrogator and the civilian were both sent to the corps G-2. This type of valuable data often came from observant civilians who were not in sympathy with the Germans.

On the whole, one of the most valuable services rendered the intelligence officer of a tactical unit was that of the interrogator. This tactical interrogation, because it is of immediate value to the fighting troops, is of more service than rear echelon strategic interrogation. The German army lacked any effective tactical interrogation and for this reason, the American system was the superior.

26TH CAVALRY (PS) A

by Lieutenant Colonel [illegible] E.

(Editor's Note: *Here is the first complete and authentic history of the 26th Cavalry's (Philippine Scouts) heroic action against the Japanese on Luzon Island in the Philippines. Colonel Chandler, the author, was S-3 (plans and training officer) of the regiment during its entire campaign from December 8, 1941, Pearl Harbor Day in the Philippines, until he was wounded the night before the capitulation on April 9, 1942, when the men of the regiment elected to trust to the jungles rather than surrender to the Japs.*

After his capture, Colonel Chandler spent two months on Bataan in a Jap hospital from which he was transferred to Cabanatuan where he remained until October, 1944, when he was sent to Bilibid Prison in Manila en route to a prison camp in Japan. He arrived in Japan on January 28, 1945, and remained in a prison there until April, 1945, when he was sent to another Jap prison in Mukden, Manchuria. In August, 1945, he was liberated along with other American prisoners by Russian forces.

While at Cabanatuan, Colonel Chandler started making notes on the 26th Cavalry's part in the war. Several officers of the regiment were with him and they helped with the details and dates. When he was transferred from Cabanatuan Colonel Chandler left his notes with a brother officer, Major H. N. Archer.

When it came Major Archer's time to leave Cabanatuan he buried the notes. He was sent to Bilibid Prison where he remained until liberated by American forces in February, 1945. As soon as possible after his release he returned to Cabanatuan to get the notes he had left behind. Upon his return to the United States, Major Archer turned the notes over to the War Department, who made photostatic copies of them. The original notes were then turned over to Mrs. Chandler just prior to Colonel Chandler's return to the United States.

This history of the 26th Cavalry, which will appear in three parts in the ARMORED CAVALRY JOURNAL, is also being published as a daily serial in the Manila Times *in the Philippines.)*

PART ONE

They wrote their names in Filipino history with blood.

WHEN the Japanese delivered their long-expected blow on December 8, 1941, the 26th Cavalry, Philippine Scout regiment, was, with the exception of a few units, at its home station, Fort Stotsenburg, Pampanga, about 60 miles north of Manila. Troop F of the regiment was located at Nichols Field and various small detachments were on outpost duty at Baler and Dingalan Bays on the east coast of Luzon. Within a matter of days the regiment was to take part in one of the bloodiest and most desperate military campaigns to be recorded in history.

The 26th Cavalry was a unit of the Regular Army of the United States, a part of the 12,000 Philippine Scouts authorized by Congress to be maintained in the Philippine Islands. The men were Filipinos and the officers were Americans except for two Filipino graduates of the United States Military Academy who had been commissioned in the Scouts upon graduation. This regiment was not in any sense a militia outfit, but was a Regular Army unit with all the tradition and *esprit de corps* that that designation implies.

Some of the noncommissioned officers in the regiment had seen well over 30 years of service. The Scouts held an enviable position in Philippine life. Theirs was an honorable and fairly prosperous position in the prewar society of the islands and the men were extremely proud of their unit and intensely loyal to the United States and to the American officers under whom they served.

The prewar peacetime organization of the 26th Cavalry consisted of two squadrons of two troops each, Machine-Gun Troop and a Headquarters Troop; a total enlisted strength of about 575 men. Early in 1941, however, the regiment was reorganized (in conjunction with the other Scout regiments) and recruited to about 789 enlisted strength. The new Tables of Organization provided for two squadrons of three troops each, a Headquarters, Headquarters and Service Troop, and a Machine-Gun Troop. This organization was considerably smaller than a Tables of Organization for a Cavalry Regiment in the Continental United States.

We lacked mortars, antitank weapons and many other essential elements of modern equipment that were prescribed for the cavalry regiments then being trained in the States. Our total enlisted strength was approximately 789 as compared with slightly over

ATTLES TO GLORY

n E. Chandler, Cavalry

1,400 men for a Stateside regiment. At the time war began, our officer strength was 54, of whom 19 were on detached service with the Philippine Army, or serving with staffs of higher units.

Although our material strength was low, as compared with similar units in the U. S., our state of training and morale was extremely high. Our commanding officer at that time, Colonel Clinton A. Pierce, had inspired the entire organization with his driving energy and a realization of the immediacy of the impending Pearl Harbor. There was never a period of more than a week when part of the regiment was not in the field. In addition to the constant field exercises ordered by the Regimental Commander, there were other serious tasks directed by higher headquarters.

A reinforced troop was stationed at Makinaya, Zambales, as anti-sabotage guard for the U. S. Naval Base at Olongapo from July 1, 1940, until it was relieved late in 1941 by a detachment from the Harbor Defense Command of Manila and Subic Bays. The First Squadron was at its M-Day position on Lingayan Gulf from April 1, 1941, until the rainy season was well underway in July. Observation detachments from the Second Squadron were constantly at their posts at Dingalan and Baler Bays on the mountainous east coast of Luzon. Troop and squadron marches and problems were held twice weekly by troops remaining in garrison, and regimental problems were held at least once a month. The state of individual and organizational training was of a high standard and the condition of the men and animals excellent. In spite of our weakness in numbers and equipment, it is not believed that any unit in the U.S. Army was in better state of training or more ready for active service than the 26th Cavalry in the late fall of 1941.

Men and officers were convinced that combat was not far off and were thoroughly imbued with the offensive spirit, traditional to the United States Cavalry and so well personified in their dynamic leader, Colonel Pierce.

Pearl Harbor Day (December 8 in the Philippines) found the regiment fairly well concentrated at Fort Stotsenburg. Troop F was at its normal station at Nichols Field, a detachment of Troop B, with a section of the Scout Car Platoon of Headquarters and Headquarters and Service Troop, was on observation duty at Baler and Dingalan, and Troop A was on a practice march and tactical problem a short distance north of the post. Overnight passes to the local barrios had been cancelled some weeks before and all men were sleeping in barracks.

News of Pearl Harbor

The Regimental Commander was notified by telephone from General Jonathan Wainwright's headquarters at about 5:30 A.M. on December 8, that Pearl Harbor had been attacked. Colonel Pierce immediately informed his staff and Squadron Commanders and issued orders moving the regiment (less Regimental Headquarters and a detachment of the Machine-Gun Platoon designated for air defense of the Regimental Command Post), to a concealed bivouac in the valley of the Bambam River, about a mile and one-half north of the main post. Regimental Headquarters remained in the headquarters building in order to maintain close contact with Headquarters North Luzon Force which was still located at Post Headquarters. By 11 A.M. the regiment, less detachments mentioned, but including all trains and complete field equipment, was established in bivouacs secure from air observation and ready to move out without returning to Fort Stotsenburg for equipment and ammunition.

Troop F, automatically released from its assignment at Nichols Field by the start of hostilities, was on the road moving to rejoin the regiment by forced marches. Observation units at Baler and Dingalan were alerted and the regiment settled down to await orders from Headquarters North Luzon Force.

Readers of General Wainwright's book well know that he had not been long at Stotsenburg on December 8, and had not yet had time to organize thoroughly his North Luzon Force Headquarters.

This force had been assigned him and the units composing it designated but as yet no allotment of enlisted specialists had been made for his headquarters. With the news that the war had begun, something drastic had to be done and the General called on his old friend, Colonel Pierce, who immediately offered his communications officer, Captain Paul M. Jones, as Headquarters Commandant North Luzon Force, and instructed him to organize the enlisted component of General Wainwright's headquarters from the trained communications and other personnel of Headquarters and Headquarters and Service Troop, 26th Cavalry. Captain Jones entered upon this task with characteristic energy and efficiency.

After selecting key men from all sections of Regimental Headquarters and the Communications Platoon, he merged them, And with those few specialists already assigned to the North Luzon Force Headquarters and such men as the Chief of Staff was able to obtain from other units the nucleus was formed of what was to be-

come not only North Luzon Force Headquarters but eventually Headquarters I Philippine Corps.

This, of course, left the 26th Cavalry short of trained personnel in various headquarters sections, but due to the foresight of the Regimental Executive Officer, Lieutenant Colonel Lee C. Vance, it was not as bad as it might have been. Colonel Vance, a veteran of World War I, knew the value of replacements for trained personnel in these vital categories and had insisted that every man, including scout-car drivers and pack-horse drivers, in the Scout Car and Communications Platoons be trained as radio operators and that all clerks in Regimental Headquarters be trained to fill one or more other jobs than their own.

Such foresight enabled us to supply North Luzon Force Headquarters with some of our most experienced men without entirely crippling ourselves. Fortunately, we were able to later relieve Captain Jones with a younger officer and Captain Jones returned to weld our depleted communications personnel into a most dependable and efficient unit.

Clark Field, some 60 miles north of Manila, as all the world knows, was bombed at 12:35 P.M. on December 8, 1941, and the best of our heavy bombers were destroyed. The Japs devoted most of their attention to Clark Field and what few planes attacked Fort Stotsenburg did little damage. Our troops were safe in their concealed bivouacs north of the post.

The somewhat confused situation began to clarify itself on December 9. Further news of Pearl Harbor was received and rumors of enemy landings in North Luzon were investigated and found to be false. Information was also received of hostile attacks on Nichols Field and Iba Field. It was rapidly becoming apparent that the enemy had almost wiped out our small air force with his first attack.

General Wainwright issued instructions that the 26th Cavalry constitute a mobile reserve for the North Luzon Force and remain in the vicinity of Fort Stotsenburg in close contact with his headquarters until further notice.

Disposition of the regiment remained unchanged. Word from Troop F, en route from Manila, indicated that it would arrive at Fort Stotsenburg the next morning.

Shortly before noon on December 10, Troop F arrived on schedule. Just about this time North Luzon Force Headquarters received word from somewhere (source unknown by author), that enemy paratroopers were landing in the vicinity of Cabiao, about 25 miles northeast of Stotsenburg, and the regiment was directed to send a combat group to that area to locate and destroy the paratroops and to establish a defensive screen northeast of Clark Field.

The regiment's Second Squadron, reinforced by a platoon of tanks, a platoon of self-propelled 75mm guns and one section of scout cars, all under the command of Major T. J. H. Trapnell, was dispatched immediately to find and smash the alleged enemy paratroopers near Cabiao. The balance of the regiment, less Troop G, established the screen from Mabalacat to Wardville. Troop G had left earlier in the day to relieve the detachment of Troop B at Baler and Dingalan. Troop G's headquarters was to be at Bongabong and it would be in radio contact with observation detachments at Baler and Dingalan and Regimental Headquarters at Fort Stotsenburg. The Second Squadron got away on its mission shortly after noon, but because of the dispersed positions of the other troops, the screen was not completely set until 4:30 P.M.

Negative reports had been received by the early morning of December 11, from the Second Squadron, which had thoroughly combed the Cabiao area and found no trace of enemy paratroops. Reports from natives in the area were also negative. By mid-morning the Second Squadron had been ordered back to the post and the screen east of Clark Field was relieved. This time the regiment took up somewhat more congested bivouac positions on the southern outskirts of Fort Stotsenburg proper, at Tacondo Hill, and the Baluga Village. These positions were neither as safe nor as comfortable as those in the Bambam area, but it was decided that some safety must be sacrificed in order that the regiment might be immediately available in case of another and more serious hostile paratroop alert. This decision cost a few casualties in men and animals during the ensuing day-and-a-half of bombing.

First Hostile Landing

Information that the first hostile landing had been made at Aparri on the northern tip of Luzon was received on December 12. General Wainwright ordered one section of the Scout Car platoon to report at once to Colonel Townsend at Tugugerao in the Cagayan Valley to locate the farthest Jap advance and for other reconnaissance and communication duty. Colonel Townsend was in command of such units of the Philippine Army as had been mobilized in the area.

All officers of the regiment were assembled at 10:30 A.M. at Regimental Headquarters for a special officers' call when the most severe air attack since the original attack on Clark Field was received. This time the attack appeared to be launched at Fort Stotsenburg, with the Quartermaster and 26th Cavalry areas receiving the worst of it. Regimental Headquarters especially was severely bombed. The assembled officers and men were safe in foxholes about the building, and although somewhat crowded as the shelters were not constructed to hold all officers of the regiment, no one was seriously injured.

However, the last car of the detail en route to Tugugerao, under the command of Lieutenant Cunningham, was hit as it passed the headquarters building and the driver was killed. He was replaced and the car proceeded to join the balance of the section before the second wave of planes struck. Several of the barracks

and stables were hit, but as they had been evacuated earlier by the regiment few casualties were suffered. The Machine-Gun Troop stable was being used to house the animals of the Regimental Staff and the elements of the Machine-Gun Troop protecting headquarters. The animal casualties in this stable during the air attack were heavy. Troops bivouacked at Tacondo Hill and Baluga Village escaped with minor casualties.

As a result of the raid, it was decided to request permission of General Wainwright to move the entire regiment to a more concealed position at Bartio Pangpang, just south of Fort Stotsenburg and Clark Field. This permission was granted and the regiment moved by echelons on the morning of December 13, beginning at 9:12 A.M. Severe enemy air raids were made during the movement, but the dispersed formations and alert air guards prevented casualties.

While this movement was taking place, Captain Jones, Regimental Communications Officer, who had been engaged in organizing the North Luzon Force Headquarters Detachment, was relieved by Lieutenant William P. Liesenring. Captain Jones then resumed his duties with the regiment. He also brought the news that the Japs had made another landing, this time at Vigan and in strength; that General Wainwright was moving his headquarters to Bambam, a small sugar refining town several miles north of Fort Stotsenburg on the Manila North Road; and that Captain Alva R. Fitch was to be attached to us with Battery A, 23rd Field Artillery (pack) and would join us the next day.

The regiment received orders on December 14, from General Wainwright to move to Bambam and to go into bivouac there as Force Reserve. In accordance with these orders, we moved out at 7 P.M. and marched toward Bambam under cover of darkness. The march was completed at 1 A.M. on December 15, without incident, and the regiment bivouacked with Battery A, 23rd Field Artillery about a mile from North Luzon Force Headquarters.

While camped at Bambam information was received that the Quartermaster in Manila had a surplus of new motorcycles and that we could have as many as 13 if we wanted them. The regiment had all the motorcycles normally allotted to it and few extra drivers. However, it was determined that the mortality rate of these vehicles would be high where we were going and that their value for messengers and liaison was great. Therefore, a group of junior officers and a few men of Headquarters Troop were dispatched to Manila for the motorcycles. It was planned to get these vehicles to the combat area by relays and train the drivers en route. This proved to be a fortunate decision, as the mortality of motorcycles did prove to be high in days following. The vehicles proved to be of inestimable value to staff officers and organization commanders as a quick means of individual transportation and communication over our rather wide area of operation during the next two weeks.

The regiment remained in Bambam through December 15 and 16, while events moved rapidly in the north. The hostile landing at Vigan was found to be so strong that our green Philippine Army troops were unable to cope with it. General Wainwright instructed the 26th Cavalry to move northward to Rosales on the Agno River in order to be in a better position to launch a counterattack at any breakthrough in the North Luzon Force line from the southern arm of Lingayan Gulf to Vigan. He, of course, was particularly concerned with the landings at Vigan, but could not discount the possibility of other landings farther south if all our troops were pushed north to counter that threat.

Two other events occurred at this time that were to be long felt in the regiment. Captain Fitch and his battery of pack artillery were relieved from attachment to the regiment and were sent south. The reasons for this order, doubtless excellent, were never quite understood by the regiment and many times in the next few weeks we mourned the loss of this experienced officer and his highly trained unit. He proved his worth and that of his outfit a thousandfold later in Bataan and we needed him badly in our subsequent actions in the Northern Luzon Campaign. It left us entirely without artillery support throughout the action.

The other event of importance was the detachment of Captain J. C. Blanning, an officer of considerable service and great ability, to relieve Lieutenant Leisenring as Headquarters Commandant North Luzon Force. It had been decided that an officer of greater experience was needed there until the headquarters was completely organized and running smoothly. We did not get Captain Blanning back until late in January and had meanwhile lost our senior Squadron Commander, Major Hubert W. Ketchum, and sorely needed Blanning's experience and proven ability. However, these things are the minor troubles of all wars and we managed without both artillery and one of our best officers. I truly believe that our regiment would have been almost twice as effective, however, had we had Captain Fitch's artillery support and it certainly would have operated more effectively after Major Ketchum's death had Captain Blanning been available to take over his command.

The move to Rosales was broken into two marches with a stop at Gerona. The regiment left Bambam at 11:30 P.M., December 16, arriving at Gerona about 2:36 A.M., December 17. It moved out for Rosales at 7:30 that night, arriving at 1:30 A.M., December 18, where it remained until December 21. While at Rosales a section of self-propelled 75mm guns was attached to the regiment, but these too were relieved before we moved on.

Orders were received on December 20, to send one troop by bus (dismounted) to Bontoc, Mountain Province, with the mission of covering the road through Cervantes from the Jap-held western coastal plain and to prevent the enemy from using the road to attack

Baguio from the rear. Troop C was assigned this mission and left Rosales about noon, December 20, by bus with a pack radio for communications.

Japs Expand Beachhead

By December 21, the Japanese had expanded their beachhead at Vigan and pushed back our Philippine Army defenders in that area. Lieutenant Colonel Moses and Major Noble with a battalion each of the 13th and 12th Infantry (PA) were struck hard by the enemy just north of San Fernando, La Union. Their untrained Philippine Army units, though well led, were overpowered by the superior enemy forces and were dispersed and forced to take to the mountains. General Wainwright planned a swift counterattack up the narrow coastal plan and ordered the 26th Cavalry north to Rosario to participate in the attack. The regiment moved out by road from Rosales at 1:30 P.M. on December 21. This necessitated another daylight march subject to enemy air attack, but there was no choice. The situation permitted no delay.

En route, Colonel Pierce received orders attaching the regiment to the 11th Division, Philippine Army, commanded by Brigadier General W. E. Brougher, and was directed to halt at Pozzorubio and await orders. It must be noted here that the section of self-propelled 75s did not accompany us on this march. They had been detached just before our departure so that we headed for our first ground contact with a well armed enemy without artillery support and no antitank weapons larger than 50 caliber machine guns.

The regiment arrived at Pozzorubio at about 7 P.M., December 21, and bivouacked to await orders from General Brougher. At about 2 P.M., December 22, Major H. J. Fleeger, Regimental S-1, arrived from General Brougher's headquarters with orders and grave news. The regiment was to move on Rosario at once where we would receive further orders. The news was that the 71st Infantry, Philippine Army, under Colonel Donald Bonnett, and some artillery had moved up the coastal plain to attack the enemy north of San Fernando, La Union, and to delay them until a full-scale counterattack could be launched. The Japanese, however, had landed more troops at Bauang and a heavy force at Agoo and things looked serious for Colonel Bonnett's force.

The regiment moved out of Pozzorubio at 5 A.M., December 22, en route to Rosario. The Scout Car Platoon (less detachments) under Lieutenant George was sent to Damortis to contact the enemy in the vicinity of Agoo and notify the regiment by radio of enemy strength, disposition, and composition. It was also directed to contact all friendly units in the area and to notify the regiment of their numbers and disposition.

The regiment arrived at Rosario about 8 A.M. without having heard from the scout cars. But while halted in Rosario, word came from Lieutenant George that he had arrived at Damortis, had encountered opposition north of that town, and was unable to proceed farther. He had sighted, however, at least 12 transport and six naval craft off Agoo and the enemy was thick just north of there. He was able to find only scattered groups of Philippine Army troops in the area with no unified command.

This dispatch from Lieutenant George had no sooner arrived than Major Fleeger returned from General Brougher's Headquarters with more definite orders. Colonel Bonnett's column had been hit from the front and flank by the enemy and most of it cut off. The rearmost portion of the column was retreating southward but nothing was known of Bonnett and the majority of his command. It was later learned that he had managed to move up the Naguilian Trail to Baguio with most of his force intact. Major Fleeger had received orders for the regiment from General Wainwright through General Brougher. The regiment was detached from the 11th Division and attached to the 71st Division, commanded by Brigadier General Clyde A. Selleck, with which General Wainwright intended to relieve the pressure on the 11th Division's right flank. The mission of the 26th Cavalry was a hard one, to hold the enemy north of the Damortis-Rosario road and, if forced to withdraw, to execute maximum delay along the axis Damortis-Rosario thereby protecting the north flank of the North Luzon Force.

A moment's study of the map will reveal that this mission was quite a large order. The regiment, 789 strong, was weakened by the loss of about 85 key men and officers who had been detached to Philippine Army units and the two complete troops which had been detached on separate missions, Troop C at Bontoc and Troop G at Bongabong. A section of scout cars was still in the Cagayan Valley under Colonel Townsend. This meant that each squadron was reduced to two troops and the Headquarters Troop was reduced by radio and scout car sections at Tuguegatao and Bongabong. With this reduced force, unsupported by other arms, we had to hold back the entire Japanese strength of a major landing on Lingayan Gulf.

Ordered to Hold Enemy

The road from Rosario to Damortis was a well surfaced road running through the foothills. To the north rose the mountains of Northern Luzon and to the south lay rather broken wooded country. The road was extremely winding, with few suitable places for delaying action because of the difficulty in finding a position offering a good field of fire on our approaching enemy. The distance from Rosario to Damortis is about 10 miles, rather a long line for our reduced forces to carry out the assigned mission to "hold the enemy north of the Rosario-Damortis road." Five trails through the mountains led from Agoo area, now in Japanese hands, to various points on the Rosario-Damortis road offering excellent opportunity for enemy outflanking movements as we moved on to Damortis.

A short discussion of the situation was held by the Commanding Officer and his staff at Rosario. Colonel Pierce decided to move at once to Damortis and contact the enemy as far forward as possible. Troop F would be divided into three strong combat patrols of a platoon each reinforced by a light machine-gun squad with one patrol placed on each of the major trails leading northward from the Rosario-Damortis road with orders to push forward until opposition was encountered and then to delay the advance of enemy units to the utmost, meanwhile notifying Commanding Officer Troop F at Rosario of the situation by messenger. Small patrols were placed on the other two trails. As will be seen later, this diversion of a strong part of our already weakened force, though seemingly extravagant, actually saved the regiment from being completely outflanked early in the day and possibly destroyed. Colonel Pierce and the S-3 moved forward by motorcycle ahead of the regiment to Damortis to contact Lieutenant George and the Scout Car Platoon with the intention of gaining what information was available and preparing a plan of action prior to the arrival of the regiment.

Colonel Pierce reached Damortis at about 9 A.M. and contacted Lieutenant George who informed him that his cars were in contact with strong enemy outposts about 1000 yards north of the town and could not advance farther. Colonel Pierce climbed a high hill on the northwestern outskirts of the town from which he could observe as far north as Agoo. Enemy shipping off Agoo was estimated to be 24 transports, four destroyers and one cruiser but the distance was too great to observe accurately. It was obvious that one or more aircraft carriers were near by as the air was full of hostile dive-bombers who could be observed making repeated attacks on what we feared was our column moving westward on the highway. Considerable activity was observed at Agoo, assumed to be the landing and organization of enemy ground units. Small fast speedboats were maneuvering off Damortis just beyond range of the 50 caliber machine guns on our scout cars.

Colonel Pierce, after looking the situation over carefully and comparing notes with his S-3, decided that an attack on such obviously superior forces was out of the question and determined to execute a series of delaying actions along the Damortis-Rosario road in an attempt to hold back the enemy force that was apparently forming to attack the right flank of our 11th Division. By this time the leading elements of the regiment were almost within sight and it was necessary to select a general defensive line from the observation point now occupied by the Commanding Officer and his S-3. Such long distance selection of a defensive position is not to be recommended but time was short. The enemy scouts and advance units could already be seen feeling out our scout car positions and it was imperative that some sort of position be occupied at once or Damortis would be occupied without resistance.

It was now about 10:30 A.M. and Colonel Pierce sent for his Executive Officer and Squadron Commanders, who joined him on the hill. They reported severe losses from dive-bombers on the march from Rosario in spite of dispersed march formation. The column had been constantly under attack by successive groups of hostile planes.

Colonel Pierce received this information quietly—because he had observed the planes circling and diving on the road all through his observation of the enemy. We were thankful the losses were no worse. Orders were issued at this point for the First Squadron (less Troop C now at Bontoc), with one platoon of heavy machine guns and one section of 50s attached, to take up a delaying position about 600 yards north and east of Damortis. One section of 50s was to protect the left and rear of the regiment from a position on the highway just south of the OP hill near the Regimental Command Post and Troop E would occupy a second delaying position about five kilometers to the east, on the Damortis-Rosario road. The remainder of Machine-Gun Troop would constitute the reserve in a draw just south of Regimental CP at the foot of the OP hill. Horses were to be kept mobile and delaying action by fire would be initiated at the earliest practicable moment.

Upon receipt of these orders the Squadron Commanders moved out at once and started to put their troops into position. Major Hubert Ketchum, Commander of the First Squadron, was forced to make his reconnaissance en route as time did not permit of prior reconnaissance on the ground. He put Troop A on the right and Troop B on the left with heavy machine guns and 50s attached to Troop B, which had the sector through which the highway from Damortis to Agoo ran. Troop Commanders were directed to select suitable positions along the general line and to maintain contact between their flanks.

The only positions available were on rolling ground completely devoid of overhead cover so the entire maneuver was conducted under harassment of hostile planes. Only extreme dispersion permitted its accomplishment at all. The superb discipline of these Philippine Scouts who went calmly about their business under a hail of fragmentation bombs and strafing was a source of inspiration and pride to every American officer in the regiment.

Tentative positions were occupied promptly and the fire of hostile patrols and advance elements returned. The line was gradually rectified until it bore some semblance to a defensive position although its length and the necessity of keeping the animals mobile necessitated the establishment of only one thin line.

Enemy Forms for Attack

Shortly after 12 Noon, it was obvious that the enemy was forming for a serious attack and at 1 P.M. it came. The attack was made by tanks and infantry supported

by 105 artillery, naval gunfire from the ships in the bay and by swarms of navy dive-bombers operating undisturbed overhead. It was obvious as the attack developed that our thin line could not hope to withstand this attack for long and that little time was left for withdrawal if we expected to be of use at the second delaying position now being prepared by Troop E. Therefore, Major Ketchum ordered a withdrawal by troops from the left. Before he could extricate his units, however, he had suffered heavy casualties including Lieutenant Allen of Machine-Gun Troop who with most of his platoon had been overrun by enemy tanks on the level ground on the left flank. Covered by Troop A and the Regimental Reserve of the remainder of Machine-Gun Troop, Major Ketchum managed to extricate the major portion of his force and poured through a low saddle just north of the Regimental CP at a gallop.

This is one time in history when a regimental headquarters acted as rear guard for the fighting units of the regiment. Led by Colonel Pierce in person, the CP personnel and Machine-Gun Troop prepared to hold off the enemy from the direction of Damortis until Major Ketchum cleared the area and was en route to the second delaying position. Fortunately, however, the enemy tanks hesitated to push their noses around the hill, fearing a trap perhaps, and Colonel Pierce was able to send his CP and remaining elements of Machine-Gun Troop after the First Squadron. Troop A withdrew cross country to the east. Colonel Pierce followed last in a motorcycle and sidecar driven by an extremely nervous S-3. The entire withdrawal was under heavy aerial attack by enemy dive-bombers and all in all served as a rather strenuous introduction to fire for the 26th Cavalry.

Contact with the enemy was broken off at Damortis about 3:30 P.M. and the balance of the regiment joined Troop E on the second delaying position about five kilometers east of Damortis. Troop A, the last to withdraw from Damortis, was cut off from the road by enemy tanks and was forced to withdraw cross country through the foothills to the north, but they arrived at the next position by about 5 P.M.

The regimental plan of action at this time was to hold the second delaying position through the night and as long as possible the next day. A platoon of tanks had been sent forward from Rosario by Brigadier General James R. N. Weaver to operate in front of the second delaying position which we were organizing. These tanks were to cover us and to give warning of the approach of the enemy until 8 P.M., at which time they were to withdraw through our lines to an assembly area near Rosario. This was perhaps not a true tank mission, but the situation was unusual and use had to be made of every unit in the area. This light tank platoon was operating under General Weaver. It was not attached to the 26th Cavalry, and General Wainwright states in his book that even he did not have command over it. The tanks in North Luzon were in his area but not assigned to his command. This situation caused many mixups in the ensuing two weeks, the first of which was about to take place in our own sector.

Contact with the enemy in our front had been lost in our withdrawal and had not been regained just prior to dark. However, reports from Troop F were that its patrols on the mountain trails to the north were heavily engaged with strong enemy groups attempting to outflank the regiment and our patrols were being slowly forced back by superior numbers and weapons.

Just prior to dusk, Captain Paul M. Jones, who had been on a quick trip to Rosario with Colonel Pierce for a conference with Brigadier General Selleck, Commanding General of the 71st Division, and General Weaver, returned to the position with a change of orders. Our second delaying position would not be held through the night, but the regiment would withdraw at dusk to the barrio of Agat where the new bridge crossed the Bued River and would take up position there covering the right flank of the 71st Division. The tank platoon, now in our front, would follow the column to prevent surprise armored attacks while en route. Colonel Pierce had been taken back by General Selleck to a conference at his headquarters and would meet the regiment at Agat.

As it was getting dark when Captain Jones arrived with these orders, the regiment was immediately pulled out of its position and formed on the road for the march to the Bued River position. As the units were forming, the tank platoon, which had been in our front, began coming past our position. Lieutenant Colonel Lee C. Vance, Executive Officer, 26th Cavalry, stopped the first tank and discovered from the platoon leader that he was following out his original orders to withdraw through our lines at 8 P.M., he had received no change of orders. Colonel Vance told him of the orders we had received; but, as the tanks were not attached to the regiment, he could do nothing more, and the tank platoon leader continued to the rear with the 26th Cavalry S-3 following on his motorcycle to contact the tank commander at Rosario and get things straightened out.

Colonel Vance sent word of this latest complication to Captain Wheeler, Commander of Troop E, whose troop was furnishing the outposts and rear guard, but it was too late. On the heels of the last American tank came the first Japanese tank. When Captain Wheeler, who was inspecting his outpost on the road, tried to find out how many more tanks were to come he was astonished to see a Jap pop his head out of the turret. Captain Wheeler fired once, and probably missed, and then the Jap tank moved on toward the regiment. The only warning Captain Wheeler was able to give was by opening fire uselessly upon these tanks with his small caliber weapons, but by this time the leading Jap tank was already in the midst of the regiment on the road and all hell broke loose in the dark.

(To be continued)

Armor and Mobility

*by Colonel Hayden A. Sears**

It is armor that restored mobility to military land operations and prevented stabilization in the war just past.

ARMOR, to the modern combat soldier, quite simply means tanks and the supporting weapons of the other arms, both ground and air, that accompany these vehicles. Likewise, the term armored operations immediately evokes a mental image of tanks and their supporting elements formed into an armored combined arms team for the purpose of accomplishing a breakthrough or penetrating an enemy line to destroy vital rear installations and communications of the enemy (which it has been impossible for the air arm to totally nullify) by complete exploitation of the assets of firepower, mobility, and personnel protection embodied in such a team. The nucleus of the armored combined arms team is the tank, and in this, as in all other armored formations, additional organic weapons are assigned to roles in support of the tank effort.

It is apparent in any review of World War II that, in all theaters, on all types of strategic terrain, under a wide range of climatic conditions, and in varying types of operations (land, water, and air), armor not only played its part, but without it, conclusive successes were seldom achieved. Further consideration also reveals that in continental operations of major magnitude, strategic successes were never achieved without the powerful contribution of armor employed in a spearhead role. A comparison of the fluid techniques of the recent war with the static type of operation prevailing during World War I leads us to conclude that:

1. Armor restored the power of maneuver to the battlefield.
2. Armor prevented a stabilized war in trenches and fortifications.
3. Armor had a direct and compelling influence on the tactics and strategy employed by both sides.
4. Armor can operate on any type of strategic terrain.
5. Armored divisions are organized primarily for offensive action in hostile rear areas.
6. Armored successes are generally achieved after initial tank-supported operations have created the opportunity for exploitation.
7. Armored operations should be closely supported by other equally mobile troops.
8. Armor, *as such*, has earned its right to ground arm status and is here to stay.

The question now arises, what is the tank? Is it a mobile pillbox? Is it artillery? Is it an armored vehicle? Is it a combat vehicle? Obviously, the tank could not be defined as a mobile pillbox since it is capable of strategic movement; neither could it be classed as artillery because it closes with the enemy. The tank is an armored vehicle, but this designation is inconclusive since it is also a fighting or combat vehicle. Webster defines the tank as "a self-propelling engine of destruction, consisting of a casement of heavy armor plates mounted on a tractor and armed with guns or machine guns or both." From the strictly miiltary point of view, the tank may be described as an armored vehicle designed to provide mobile firepower, as well as sufficient protection to personnel to permit engaging the enemy at close range as dictated by the tactical requirements of fluid warfare. Logically, the next question is, what is armor? We may explain that it is a collection of tanks supported by all other ground arms and services, the organization being designed primarily for offensive operations. It is contemplated that tanks be used where they may be employed most effectively to win battles; armor shall be employed in the same fashion to win wars. To accomplish this, armor must be mobile if it is to be employed in strategic offensive operations and must possess the mobility of the troops it supports if it is to be employed on limited tactical missions.

Mobility is a quality second in importance only to the firepower potential of the armored combat vehicle, and is one which must be retained in these vehicles and their supporting weapons. Broadening of the powers of mobility through technological advancement is a future possibility. The ensuing paragraphs are concerned with the various aspects of mobility as it applies to armor in future concepts of warfare.

The possible means of transport for armor of the future are varied. Armored formations have been landborne and waterborne in the past, and future development is projected to make them airborne. The recent

*Director of Instruction, The Armored School.

war was conducted and ended on a mobile scale never achieved in World War I, and there is no reason to presume that World War III—should it occur—would not begin on a scale of mobility at least equal and perhaps superior to that so recently achieved in World War II. Greater mobility with increased firepower, is the goal for the future; any increase in armor protection to troops may become of secondary concern. With space being conquered by rocket or jet propulsion, and with transsonic and supersonic speeds being reached in the stratosphere, what is the future of armor when considered in terms of the mobility of tomorrow?

That the armored successes of World War II were generally achieved after initial tank-supported operations had created the opportunity for exploitation, is a known fact. The initial question then in the matter of mobility becomes, how shall initial operations be supported with tanks? How these successes shall be exploited with armor, which has so thoroughly demonstrated its ability as the ideal modern arm of mobility to perform such missions, immediately follows.

Land and waterborne operations, using tanks in a supporting role, have been accomplished successfully. There is every reason to suppose that with the advance of technological development, armored airborne operations may be made practicable and the facility of waterborne operations increased. World War II precipitated the development of various ship-to-shore methods of transporting armored vehicles and the development of special amphibian fighting vehicles. These speculative amphibious ideas culminated in the successful waterborne invasions of Italy and France, and the island-hopping operations in the Pacific. There is no reason to presume that their counterparts, using air as an operating medium, will not be achieved in the somewhat unpredictable future.

Modern developments contemplate infantry coming under proximity fuzes, and the trend of personnel transport development is toward the fully armored carrier and the discard of the lighter open types of the last war. This trend projects an increase in load weights. This increase in weight requires increased lift if the operation is to be airborne, and therefore the infantry and tank problems in future operations will become more closely related. The matter of buoyancy pertaining to armored combat vehicles, having been more nearly solved in previous amphibious operations, poses no new consideration for armored personnel carriers to be employed in future amphibious operation, but does demand development with a view to increasing the mobility and maneuverability of the vehicles and vessels involved, and consequently the tempo of such operations. In airborne operations embracing the transport of armored vehicles for both combat and transport, however, lift is the controlling factor. Without lift, neither armor nor its supporting troops will remain truly mobile as that term may imply tomorrow. Armor of the future may be forced to be relatively light in weight if the full advantages of available air-lift are to be realized.

The basic principles of warfare remain unchanged. Tactics of the battlefield will change with improvement in weapons, employment of higher order explosives in these weapons, and improved technique on the part of immediate tactical commanders in the handling of weapons so as to produce maximum devastation. Since it is an accepted principle that battle successes are achieved as the result of concentration as opposed to dissipation, emphasis must again be placed on mobility to enable rapid and decisive concentrations to be made, and equally rapid closing with the enemy to be effected. This rapid closing may well become a most vital consideration in warfare of the future. An equally rapid dispersion sufficient to guarantee maximum protection but not so great as to imperil security within the area achieved, must be executed after success has been attained. Armor of the future must possess superior tactical as well as superior strategic mobility.

Experiences of World War II demonstrated that it was practical to establish beachheads using armor support and to bring armored formations into those beachheads to break out and exploit. By the same token, it is feasible to envision vertical invasions and the establishment of airheads containing supporting armor; the introduction of armored formations into these airheads would follow for the same purposes as those in beachhead operations. This cannot occur today and might be incapable of accomplishment tomorrow; however, it is a possibility of the future which cannot be overlooked.

Modern organization also appears to envision increased mobility. The armored division has been given an additional combat command. This provides another tactical headquarters equal in all respects to the two already existing and should further facilitate the conduct of mobile operations. The proposed infantry division has been provided with the equivalent of two tank battalions and contains a reconnaissance company as organic armor. In addition, it will eventually possess artillery of the identical self-propelled types found in the armored division, and armored personnel carriers in sufficient numbers to transport a combat team. This makes it possible for the division commander in fluid warfare to exploit his situation immediately without waiting for the addition of armor, inasmuch as the equivalent of a combat command of identical capabilities with those of the armored division can be organized from his own organic units. The trend in the ground divisions is toward increased mobility combined with armor protection. These changes will obviously tend to prevent stabilization in foxholes, trenches, and fortifications, and will enable the infantry division of the future to engage in a more mobile and fluid type of warfare than has hitherto been possible. These potentialities indicate that it will be necessary for all infantry of tomorrow to be trained in the mobile techniques of

the armored infantry of today if the full advantage of the new capabilities is to be realized. Commanders of the future must possess that vision which will enable them to perceive their possibilities and be prepared to exploit their capabilities through the full use of surprise achieved through mobility, properly followed up.

Current developments are leading to a much more mobile type of thought. Flights in the sub-arctic are taking place daily across the North Atlantic and in the northern reaches of America, Europe, and Asia. During the summer months the waters bordering on the northern coasts of these continents are open to waterborne operations. Flights across the top of the world, while not commonplace, are no novelty and have clearly demonstrated that the shortest routes of travel between the industrial sections of both continents lie via these arctic routes and are capable of accomplishment. That such flights cannot be made round-trip is apparent, for the fuel consumption involved is in excess of the capacity of all but the largest planes, and but few, if any, with such capabilities now exist.

An over-all plan envisioning the use of identical armored formations for all the mobile purposes heretofore explored is, of course, impracticable. Just as we weighted our successful combat formations in accordance with the immediate existing situations by reducing or increasing our percentage of armor, so perhaps in the future must we vary the composition of our armored formations by combination of different weights of armored vehicles according to their capabilities in the areas of contemplated employment, as well as according to the means of transport available to carry them to their destination in the proposed theater of operations. While it is desirable and may ultimately be practicable to manufacture one family of armored vehicles for all types of operations, the attainment of such an objective is not as yet a foreseeable fact capable of accomplishment with the means currently or immediately projected. Such development for which a demand may eventually exist, while possibly desirable, would be laborious. It should be approached from many angles. To narrow the development field to one type might well mean the exclusion of many others with admirable features. Armor must have its various types of combat vehicles, both in its principal echelons and in its supporting elements, for the day of a universal armored fighting vehicle has not yet arrived.

Despite the implications of new atomic age developments which pointed toward greater emphasis on mechanical instruments of war and less emphasis on the human element involved, it is well to remember that wars will continue to be fought by men. It is interesting to note that no less an eminent scientist than Dr. Vannevar Bush, who made numerous contributions to the war effort as Director of the Office of Scientific Research and Development, stated before a House Committee on Postwar Military Policy, "Wars are fought by men. The fighting strength of this country rests on many factors. It rests especially upon the men in the ranks, upon their ruggedness of body and mind, upon their fighting spirit, upon their belief in their cause as they come to define it." Here, we find acknowledgment of the basic principle that wars are won by the men on the ground, and a discount of the 100% automatic robot idea.

It is armor that restored mobility to military land operations and prevented stabilization in the war just past. It is armor and its armored auxiliaries that, with increased and possibly three-dimensional mobility, will prevent the stagnation of situations in the future and challenge the current tactical and strategical concepts of the employment of ground forces on a global basis.

106th Cavalry Squadron Officers First National Guardsmen To Achieve 100% Membership In Association

First National Guard Cavalry Squadron to achieve 100 per cent membership among its officer personnel in the U.S. Armored Cavalry Association is the 106th Cavalry Reconnaissance Squadron (Mechanized) stationed at Springfield, Illinois, under the command of Lieutenant Colonel Mark S. Plaisted.

This unit which served in Panama, Normandy, Northern France, Germany, and Central Europe during World War II, has just recently been reactivated as a peacetime unit of the Illinois National Guard.

The Future Of Armor As The Arm Of Mobility*

by Major A. J. Wilson, M. C.

ANY paper on a military subject written at the present moment is necessarily colored and affected by the views of the writer on nuclear energy as applied to land warfare. To leave this factor out of account in considering any current military problem is to play Hamlet without the Prince with a vengeance, and leads inevitably to the formulation of false ideas and conclusions. This paper, then, is based on the thesis that nuclear warfare between any two Powers or groups of Powers in the world will not be a practical proposition for the next ten years. Only one Power—the U.S.A., is in full possession both of the scientific secrets and of the necessary industrial potential and apparatus for the conversion of nuclear energy to war purposes, and it is furthermore doubtful whether any Power would consider it either expedient or wise to launch a nuclear *blitzkrieg* without warning on an adversary Power, both because of the fear of reprisals and because of the disastrous effect such an assault would have on the conscience of the civilized world. It can therefore with a reasonable degree of security be assumed that nuclear warfare on the lines envisaged by General Tuker in "Nuclear Energy and War"[1] will not develop at the start of a war within the next ten years.

Leaving a nuclear *blitzkrieg* temporarily at any rate out of account, we must now consider the probable pattern of the early stages of any future world war. The pattern of war throughout the ages shows that one war has nearly always begun where its predecessor left off; periods of peace between wars are seldom marked by any very novel tactical or strategical conceptions. For example, the pattern of the early stages of the 1914-18 war was far more akin to the Franco-Prussian war than to its final stages in 1918, while the similarity of the first months of the 1939-45 war in the West to the trench warfare of 1914-18 is even more marked. At the same time there was singularly little resemblance between Maginot warfare in 1939 and the patterns of the battle of Normandy and the Rhine crossing in 1944-45.

It is therefore reasonable to deduce that any future land conflict during the next 10 years between major Powers is likely to develop at first along the lines of present-day warfare, always assuming that nuclear warfare be avoided at the start of the war for the reasons already outlined. This is not to deny that there may be minor changes, but these are likely to be matters of degree only; the basic pattern and tempo are likely at first to be approximately the same.

Particularly up to the end of the Tunisian campaign, and to a slightly less degree afterwards, armored forces were without doubt the dominant arm on land during the 1939-45 war. The German onslaught on Poland, the collapse of France, the German victories in Russia in 1941—all these were due in the last resort to the power of armored forces. Warfare in the Western Desert and in Tunisia mainly also followed this trend, though towards the end of the period the dominance of armor on both sides was greatly reduced by the improvement in the caliber and performance of antitank weapons. Nevertheless the dominance of armor was reflected in the concentration with which commanders at all levels studied their tank "runner" states, and it became second nature to base a plan on the quantity and quality of armor available on either side. Infantry were reduced at least in their own minds if not in those of their commanders to the status of "tank followers," and were relegated to the roles of holders of a firm base and "moppers up" of pockets of resistance which had been by-passed or otherwise neglected by the all-dominant armor.

The Battle of Alamein and the stiff, dour fighting of the Tunisian campaign did much to redress the balance, which in Italy during the Winter campaigns of 1943-44 and 1944-45 even became tilted toward infantry as the dominant arm. Nevertheless, as soon as the sun shone and the mud of the Winter and early Spring developed into the dust of early Summer, it was to armor that commanders, whether in Western Europe or in the Mediterranean theater, looked for their decisive successes. The advances in Italy from Cassino to Florence (1944) and the Senio to the Alps (1945) were both predominantly armored operations after an initial infantry dogfight, while in France and Germany the pursuits from Falaise to the Seine and Scheldt and from the Rhine to the surrender on Luneburg Heath were equally operations in which armored formations played the leading role. It is thus evident that armor was the dominant arm on land during the late war, even if many of its successes could not have been achieved without a previous victory in the infantry battle.

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*Journal of the Royal United Service Institution.

[1]January, 1945, number of the United Service Institution of India Journal: "Nuclear Energy and War," by Major General F. I. S. Tuker, C.B., D.S.O., O.B.E.

To what factor did armor primarily owe its prominent role in the war just concluded? A glance at the history and development of war, however cursory, makes this abundantly clear. During the war of 1939-45 armored forces constituted the *arm of mobility, which whether represented by the elephants of the Carthaginians, the knights of the Middle Ages, the cavalry of Prince Rupert and Cromwell in the XVII Century or the light brigades of the Peninsular War, has always held the center of the military stage.* The only exception to this tendency occurred on the Western Front during the 1914-18 war, when tactical and strategical conceptions on both sides for a variety of reasons reached a very low level. The later stages of the Palestine campaign showed that the apparent exception in the West to the law of the dominance of the arm of mobility was only occasioned by a surprising lack of military understanding, and the trench warfare of 1914-18 can therefore be interpreted not as an exception to a law of history but as the logical outcome of a lack of tactical and strategical insight on the part of the commanders on both sides of "No Man's Land."

Armor, then, owes its dominant position during the 1939-45 war to the fact that it has throughout constituted the *arm of mobility*. We must now consider how far it is likely in the future to retain this position of dominance. The recent war shows the gradual conquest of the tank by the antitank weapon. Brigadier Carver's article "Tank and Anti-tank"[2] makes it clear that latterly even the heaviest tank was unable to advance in face of an antitank screen unless preceded by an air or artillery barrage on the lines of 1914-18. Furthermore the well trained and determined infantryman with his bazooka in close country was able to halt a tank attack, unless the latter was well supported and accompanied by infantry. The contrast between the standard organizations of the British armored division of 1941 (two armored brigades, one infantry battalion) and the 6th British Armored Division in Italy, 1944-45 (one armored brigade, two infantry brigades) shows the decline of the power of the tank. It is in fact almost true to say that, except against disorganized opposition which has already been defeated in the infantry battle, the tank is now no longer a "matchwinner" but has been reduced to the status of a supporting arm.

If, however, armored formations are incapable of assaulting prepared positions owing to the dominance of the well sited and dug-in antitank gun, they remain the masters of the towed antitank weapon in open warfare, while with the assistance in similar conditions of infantry trained to work in conjunction with tanks they can deal also with self-propelled antitank guns. The continued dominance of armored formations in these circumstances is well exemplified by the operations of the B.L.A. armored formations beyond the Rhine and by the decisive part played in the destruction of the German armies in Italy South of the Po by the 6th British Armored Division. It should be noted, however, that in both cases the opposition had previously been routed in the infantry battle, and in neither case had the support of an air arm which was capable of giving the Allied air forces opposed to it any great anxiety.

Armor, therefore, having been the dominant arm on land throughout the 1939-45 war, was rapidly losing its position toward the end (largely as a result of its mobility, to which it had previously owed its dominance, being restricted by the development of the antitank gun and the infantry antitank weapon). *It still retained its dominance when operations became fluid;* but, before this state of affairs could develop, special conditions were required, e.g., a perpetually open flank (as in the Western Desert) or an enemy previously defeated in the infantry battle (as after the crossing of the Rhine or the Senio). *By the end of the War, in fact, armor was only the arm of mobility in the presence of certain special conditions, whether naturally prevailing or artificially obtained.*

Let us now consider how these special conditions of fluid warfare can be obtained in the future, other than by victory in an infantry slogging match as at Alamein or in the Liri Valley in May 1944. Victory, under these conditions already expensive, becomes a disastrous luxury as soon as the casualties reach the scale of similar operations during the 1914-18 war. During the later stages of the 1939-45 war the skill of our commanders and our overwhelming material superiority combined to keep our losses in this type of operation within bounds, but we must be prepared in any future conflict in which there is approximate material equality between the two sides for the pendulum to swing toward the defender and for casualties in a direct assault to become once again prohibitive. The problem of opening up the battle other than by success in an infantry dogfight, though not immediately pressing, is likely to become so in any future war where there is approximate material equality between the contestants.

The answer to this problem surely lies in the further development of transport aircraft. The effect of the giant strides already achieved during the past six years in the development of aircraft for this purpose can be clearly seen in the contrast in tempo between the deployment of the five divisions of the B.E.F. in 1939 and the switch by air of the 5th Indian Division from the Arakan to the Imphal front in the 1944 Burma campaign. Air transport is still in the early stages of its development, but the advances already made show clearly its potentialities as regards both the tactical and the strategical aspects of war.

It is at present true to say that airborne forces are only suited for tactical roles because of the limited weight and bulk of equipment which can be carried by air. Arnhem showed that airborne troops are capable only of very limited advances after reaching the ground, and that they are dependent for holding their objective

[2] "Tank and Anti-Tank", by Brigadier R. M. P. Carver, C.B.E., D.S.O., R.U.S.I. Journal, February, 1946.

on the speedy arrival of "follow up" ground troops. Throughout the late war it was in the last resort on the arrival or non-arrival of these "follow up" troops that the success or failure of an airborne operation depended. The success of the German operations in Crete in 1941 constituted the exception which proves the rule, for the defenders in addition to being almost entirely without air support were also wholly lacking in armor. It is therefore on future advances in the deployment of these "follow up" troops that will depend the ability of airborne forces to assume with success a strategical role.

It can reasonably be assumed that the development of transport aircraft will provide in any future war for the movement by air of the troops following up an airborne operation. It is further assumed for the purposes of this paper that it will *be a practical proposition to fly by transport aircraft tanks of at least the caliber and armament of a Sherman.*

What then will be the pattern of the airborne operation of the future? The first phase is unlikely to differ greatly, save in degree, from the present; parachute troops being employed as during the late war with the full support of all available fighter and bomber aircraft. The principal difference will probably be found in the location of the zone in which parachute troops are dropped; for, owing to the "follow up" troops and supplies being flown in, it will be possible to drop the first flight very much deeper than at present and consequently on strategical as opposed to tactical lines. The dropping zone of the paratroops must however at all costs include an airfield, and air strip construction parties with their equipment must land at an early stage in order to construct new fields to take the great volume of air transport traffic that will follow.

In the second phase airborne "follow up" troops will arrive by transport aircraft on the airfields which have been seized or constructed by the first flight. The *second flight will include elements of an airborne armored division* which will sally forth from the firm base held by the airborne infantry of the first flight to operate against the open flank or lines of communication of the opposing army. Their *main task at this stage will be the seizing and holding of further airfields or ground suitable for development as air strips in order to speed the deployment of further airborne "follow up" troops.* The build-up during this period will follow the main lines of the development of a beachhead in any other combined operation, and a period of apparent stagnation as at Anzio and in Normandy may even supervene, though this would be both dangerous and undesirable.

In the third phase the airborne army will operate in conjunction with the ground "follow up" troops in an effort to "besiege" the enemy army on the battlefield. This has now been the ultimate object of commanders on land for over two thousand years and would be in pattern an operation no different from other land battles of the past.

This then is the pattern into which the airborne armored forces of the future will have to fit if armor is to retain its position as the arm of mobility and consequently as the dominant arm on land. It is not within the scope of this paper to discuss in detail how these forces should be constituted in order to play their full part in this pattern, but the following very general considerations may possibly be of interest.

In the first place the armored division as a formation should remain, if only because of its value in producing teamwork, cooperation between all arms, and a high standard of combined infantry and tank training. Two infantry brigades will be required—possibly one a motor brigade, mounted in light armored wheeled or half-tracked troop carriers, for working closely with the tanks in really fluid operations, the other a normal infantry brigade for restoring mobility to the armor in the face of more organized opposition. Whatever the establishment of infantry, sufficient Kangaroos to transport at least one battalion of infantry should be maintained as a divisional pool. The proportion of supporting arms will depend on the availability and lifting power of the transport aircraft and for this reason it is not proposed to go into the detail of the remainder of the organization. The guiding principle would be to retain as much of the framework of a normal armored division as possible having regard to the limitations imposed by the nature of the transport aircraft employed. It may be argued that this organization would be unduly cumbrous. However, real striking and holding power will certainly be required in the later stages to defeat attempts to break out on the part of the encircled enemy, even if in the early stages airborne armor will have to be prepared to work in combined squadron/company groups until the build-up is sufficiently complete for a full armored division to be employed.

Briefly then, to restate the conclusions reached in this paper: in the first place nuclear warfare between two major Powers is unlikely for the next ten years, while any future conflict which breaks out before international nuclear warfare becomes a practical proposition is likely at first to follow the pattern of 1945 warfare. We should therefore base our plans on improving 1945 methods and techniques, while keeping our minds open to the possibility of a new and revolutionary weapon or technique being developed. Armored forces, which remained the dominant arm throughout the war of 1939-45, are at present losing their position as the result of the development of antitank weapons. Airborne operations, however, provide a ready means for obtaining the special conditions in which armored dominance still comes about, and it therefore follows that armor will play a prominent part in future airborne operations. The further development of the transport aircraft is likely soon to make this a practical proposition. *In these conditions the airborne armored division is likely to play the same decisive part as the more normal armored formations did in the late war.*

MODERN CAVALRY ORGANIZATION

*by Captain Stuart J. Seborer**

ORGANIZATIONS are conceived in order to accomplish definite missions with available weapons. Three important elements must be incorporated into any military structure: control, destructive power and mobility. In other words, the sine qua non of land warfare are men, weapons and vehicles. Even in this era of the atom bomb and the guided missile, ground troops will be indispensable in taking and holding ground. Perforce, organizations should be capable of undertaking such tasks with maximum efficiency.

Experience proved that many units fighting in World War II were not properly organized to carry out their assignments efficiently. Moreover, some forces were given combat missions for which they were not trained. "Reconnaissance" Cavalry, for example, belied its name, for Mechanized Cavalry Groups in the European Theater of Operations were assigned reconnaissance missions during only three per cent of their combat days.

The reconnaissance role was described as the performance of missions employing infiltration tactics, fire and maneuver; engaging in combat only to the extent necessary to accomplish the assigned missions. I remember in 1942 when even the Tank Destroyers at Camp Hood began surreptitiously substituting for their audacious slogan of "Seek, Strike and Destroy" the 113th Cavalry battle cry, "Sneak, Peek and Retreat." Our slogan was not ascribable to caution being the better part of valor, but rather to the accepted doctrine of reconnaissance Cavalry. In fact, field problems were frequently designed to tempt the unit commander to become involved in a "fire fight"—the lure of which few could withstand. The "Critique" would usually admonish the leader for "engaging in combat when his mission was reconnaissance."

It is important to note what missions were typically assigned to Mechanized Cavalry Groups in the European Theater of Operations (frequency in decreasing order): (1) Defensive combat; (2) Special Operations; (3) Security; (4) Offensive Combat; and (5) Reconnaissance. Division Reconnaissance Squadrons received fewer defensive combat missions and performed more reconnaissance than Groups.

In order to carry out their assignments, cavalry operated dismounted almost twice as frequently as it did mounted. In addition, the cavalry group usually had to be reinforced with a battalion of field artillery, a battalion of tank destroyers and a company of engineers.

It became clear to most cavalrymen in the ETO that either our missions were ill-conceived (that is, division and corps headquarters did not employ cavalry properly) or our organization was inadequate for the many types of missions we could expect (few higher commanders could afford to hold us back for reconnaissance alone). The majority opinion held realistically that Cavalry should perform the traditional role of a highly mobile, heavily armed and lightly equipped combat force. This meant that our organization had to be revamped with a view to tackling various assign ments of average difficulty with organic strength.

In the hedgerow country of Normandy, in the pursuit across France and Belgium, on the Siegfried Line, the Roer, the Rhine and to the Elbe—in fact everywhere—the 113th Cavalry learned that Cavalry had to fight for information just as it fought to advance.

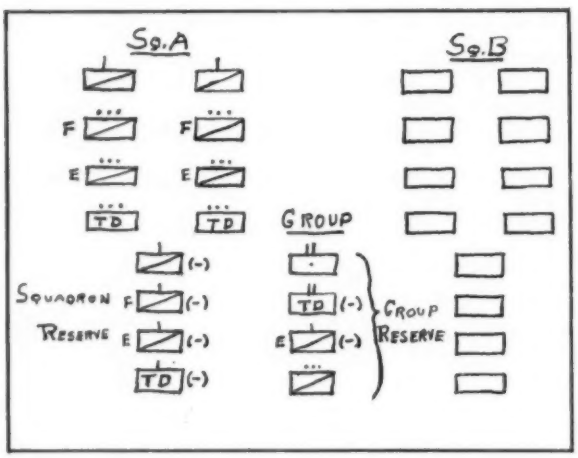
On a relatively stable front (Siegfried Line 19 Sept-12 Nov 1944) dismounted patrolling was the primary method of gaining information. Almost every night Troop B sent out patrols varying in size from six to eight men. In all dismounted actions, the same handicaps were evident. The troop lacked a dismounted unit organization, such as the infantry squad, which was necessary for smooth operation. The personnel comprising a patrol consisted of radio operators, truck drivers, and 37mm gunners. Everything was improvised —even the BAR's were non T/O weapons and had to be bootlegged. (A deal was consummated to obtain a rifle with sniperscope—my first British combat jacket was sacrificed.) Perhaps the greatest obstacle of all in dismounted attacks or raids was the psychology of sneaking and peeking which we had carried over. After almost a year of combat, including four campaigns, evidences of this psychological handicap were still prevalent.

In spite of its organizational inadequacies, the 113th Cavalry Group for a period of six weeks successfully de-

*Cavalry Reserve Officer.

fended the north flank of the 12th Army Group (Sittard Area). This allowed larger corps units to operate against the Siegfried Line until the group was relieved by the Guards Armored Division of the 30th British Corps on November 12, 1944. I shall always be profoundly thankful that no major offensive was launched by the "Jerries" during this period, since the group had one platoon in reserve and the squadrons one platoon each. Rotation of troops was impossible until the 17th Cavalry Squadron was attached to the Group on November 2.

The Cavalry at the end of the war was characterized by its great mobility, especially on roads, its superior fire power (200 per cent greater than an infantry unit of equal size), its 81mm mortar weapons (introduced by 1st and 3rd Armies towards the end of the war) organic in each Cavalry platoon, and its tank companies and assault gun troops in each squadron. A typical combat organization was the following:



Thinking in terms of a more adequate cavalry organization designed to cope with such missions as have been typical in the European Theater of Operations, the following considerations bear evaluation:

1. Maneuverability and Control
2. Destructive Power
   (a) Direct Fire
   (b) Indirect Fire
   (c) TD capabilities
3. Mobility

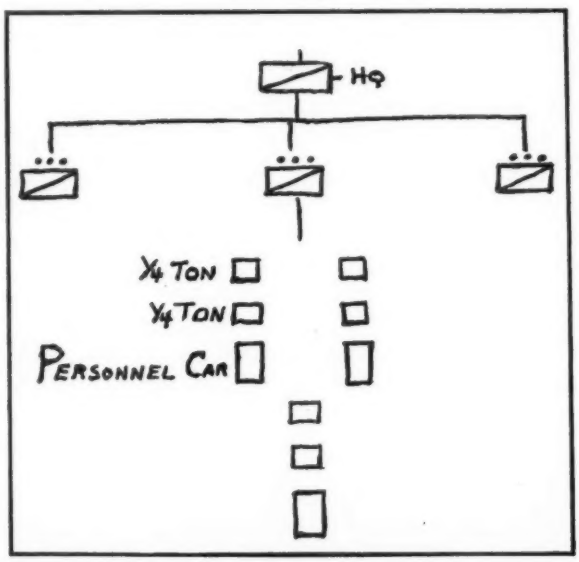
In 1945, Major General I. D. White referring to the need for riflemen in the Cavalry stated "The Cavalry mechanized unit must be trained and organized for considerable dismounted action. Our present reconnaissance troop . . . does not lend itself to dismounted action. The bulk of the troop is composed of crewmen and . . . there is little time to train them as riflemen for dismounted combat."

In order to augment the ratio of dragoons (riflemen) to vehicles, it has been proposed by others that there be two Cavalry troops and one dragoon troop in a Cavalry Squadron. This argument is based upon the premises that normally two troops are committed and one held in reserve, dragoons are more suitable for support, and relief of the Cavalry troops can be accomplished by the regimental commanding officer.

The rebuttal to this proposal contends that a triangular organization is necessary, the platoons habitually need dismounted men who should be included organically, and a dragoon troop would usually be split up between the two cavalry troops, thus losing its utility as a squadron reserve troop. (The principle of a reserve is that of holding out an integral or balanced striking force capable of being used as a unit to either develop an opportune situation, counterattack or replace a unit whose combat effectiveness has diminished.)

World War II experience showed that a Cavalry group consisting of two attached squadrons was not properly balanced. The Group Headquarters had difficulty in administration because it lacked the necessary overhead. The Squadron, normally a tactical unit, maintained personnel for administration and supply since it was frequently detached from its parent organization. Esprit was adversely affected by frequent changes in Headquarters (Army, Corps and Division), each having its own operating procedure. The lack of an equitable share in certain privileges, difficulties in processing awards and failure to accomplish proper rotation were attributable to the chameleon-like group structure. Since the group consisted of attached organizations, the detachment of subordinate units was frequent and often for the purpose of performing duties not related to mechanized Cavalry missions, for example, main-

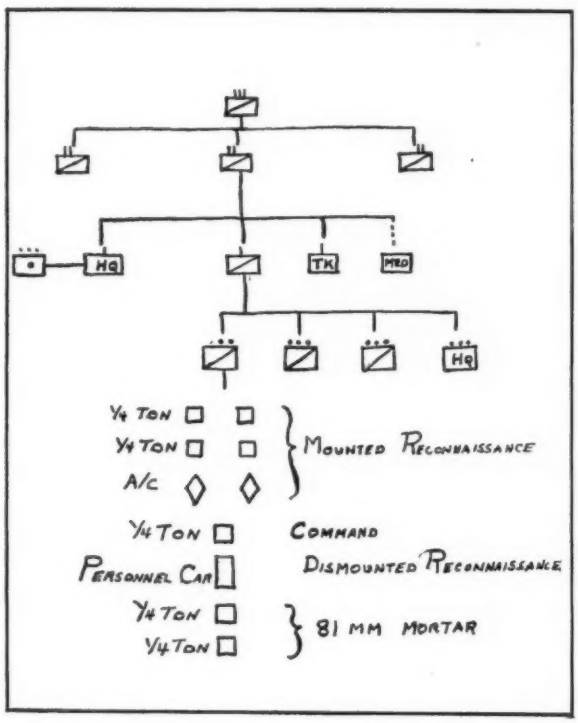
This chart shows General White's proposed Cavalry troop structure.



taining an army information service.

As a result of these considerations, an Armored Regiment (light) has been proposed by Army Ground Forces to replace the mechanized Cavalry Group. It would consist of three armored battalions (light), each capable of independent action. A battalion would comprise a Hq & Service Company (including an Assault Gun Platoon of 6 x 105mm howitzers), three reconnaissance companies, a tank company (17 tanks mounting 76mm guns) and attached medics.

The primary mission of the Armored Regiment

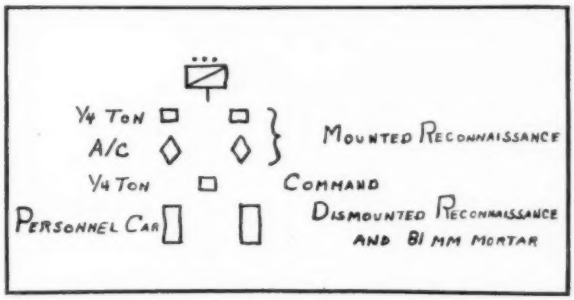


would be corps security. The desirable features of this proposed organization are:

1. The triangular regiment containing three organic battalions is reestablished.
2. The platoon includes a squad of organic riflemen.
3. The reconnaissance company armored vehicles will have a 75mm gun replacing the 37mm.
4. The assault gun platoon has 105mm howitzers whose shells have a bursting radius about twice as great as the 75mm.
5. The superior 81mm mortar replaces the 60mm in each platoon.
6. The tank company will have a 76mm gun with tank destroyer capabilities.
7. Improved mobility will depend upon the development of new vehicles.

A notable feature of the proposed platoon concerns the ratio of men to vehicles. In the old Cavalry reconnaissance platoon there were one officer and 29 enlisted men to nine vehicles. In this structure a squad of riflemen, nine men and a driver riding in a personnel carrier have been added, changing the ratio to one officer and 38 enlisted men to 10 vehicles.

My experience is more in accord with that of Major General Huebner, formerly Commanding General V Corps who wrote "There should be about 65 men available to support each Cavalry troop." This would envisage a platoon organization of the following type:



In a typical combat situation, it is expected that a platoon of tanks would be attached to each operating troop (See Chart I). This would usually add two tanks to each operating platoon. Thus, the reinforced platoon of nine vehicles would stretch out in a road column about 500 yards long. Practically all its dismounted security must come from the riflemen in the personnel carriers. In addition, the dismounted men (on a mounted mission) must check roads for mines, investigate bridge approaches and flank vehicles through woods and towns. In April 1945, a platoon of the 83rd Infantry Division was attached to Troop "B" in a mission of offensive combat. The infantry platoon worked well with our troopers, but they were hard pressed and suffered 30 per cent casualties in a few days. The platoon of infantry (about 50 men) were found insufficient to meet our need for rifle support.

It should be emphasized that in the ETO, Cavalry operated dismounted almost twice as frequently as it did mounted. At such times, dismounted patrolling was a daily task. Certainly 18 men, or two squads, out of a cavalry platoon of 38 men would be the barest minimum of trained riflemen necessary for such missions.

Many combinations and permutations of men, weapons and vehicles are conceivable in formulating a new armored Cavalry organization. However, a sound structure must be flexible and take into consideration the fact that Cavalry will receive various types of missions which require fighting. Cavalry is being redesigned to perform its traditional role of a highly mobile heavily armed and lightly equipped combat force.

Cavalry With Armor On A Reconnaissance Mission

*by Major Owen E. Woodruff, Jr.**

THE contact was made! American forces contacted the Russians at Torgau and Germany was split in half. Newspapers were full of the surrender talk, but to the troops in contact it seemed the Germans never read newspapers.

The actions of Troop B, 87th Cavalry Reconnaissance Squadron, Mechanized, while attached to Combat Command B of the 7th Armored Division for operations in the northern half of divided Germany are dealt with in this article.

Colonel Joseph Haskell, commanding Combat Command B of the 7th Armored Division, received orders on May 1, 1945, attaching his troops to the 82d Airborne Division. The 82d had established a bridgehead east of the Elbe River in the vicinity of Bleckede southeast of Hamburg, and was fighting against determined resistance. The Germans were not giving up an inch of ground without a struggle, and it appeared at the time that they had not felt the Russian pressure on the north.

The combat commander took his S-2 and S-3 and proceeded to the Command Post of the 82d for instructions. Upon arrival he found that the 82d wanted armor—tanks—any kind of tanks. The division commander felt that an armored spearhead could break the crust of the enemy line, and once penetrated, resistance would cease.

Colonel Haskell was given an initial order to assemble a tank battalion in the vicinity of the bridge over the Elbe during the afternoon of May 1, move the tanks into the bridgehead under cover of darkness where they would be attached to a unit of the 82d. The mission was to assist in the breakthrough. This order was changed later in the day after the combat commander saw the commanding general of the 82d and recommended that the combat command operate as a unit and make the penetration. This plan was approved and the necessary orders issued. A zone of action and a line of departure were assigned, as well as a time to jump off. The combat command objective was the corps objective, the city of Ludwigslust.

While this was going on our troops were marching to the bridgehead from an assembly area 50 miles south. There was no time to initiate reconnaissance prior to darkness and the attack jumped off at first light so the plan for Combat Command B was made to compensate for this lack of personal reconnaissance.

The combat command was divided into three balanced task forces, and three routes were selected from a map study. It wasn't known whether these roads were passable or not because no aerial photos were available and no prisoners were available to answer questions. In an effort to give the task forces some inkling of what they could expect along their routes of advance a troop of cavalry was requested and received. Troop B, 87th Reconnaissance, was attached and given the mission of reconnoitering the routes of the task forces and reporting enemy contact. One platoon was put out in front of each task force to precede it by one hour. Troop headquarters and Combat Command B headquarters followed the task force on the center route.

The platoons were briefed and jumped off on schedule. Communications worked well. Platoons were tied in with the task force nets and with troop headquarters. The combat command had troop headquarters and the three task forces in its net, so there was a constant flow of information coming in to the combat commander.

It was surprising how the picture built up. Something had happened to the enemy because the reports for the first hour kept coming in with the same ending —"No enemy contact yet." The enemy had either pulled out altogether or had withdrawn to new defensive positions. It wasn't known which.

During this period good information of the routes was pouring in. A bridge was out but a ford had been found. A section of the north route was unimproved and would not carry task force loads. Here the reconnaissance platoons performed another valuable task by providing guides at critical road junctions and by-passes. By so doing, they avoided needless delays and kept the task forces moving.

The first contact with the enemy was made about two hours after the jump-off of the reconnaissance elements. The reconnaissance platoon leader's message stated that six wagonloads of German soldiers were parked on the

*Faculty, The Ground General School.

side of the road waiting to surrender. Prisoners of war in this group stated that the main defenses were being set up at Ludwigslust, but they personally had had enough of the war. They wanted to give up. This didn't make sense, for only 24 hours before, the Germans were inflicting casualties on our troops and fighting hard. Soon the other columns reported that small groups of Germans were surrendering. Quick to sense that something was causing this change in the enemy's will to fight, the combat commander ordered the reconnaissance troop to cease their reconnaissance mission and begin to take over the prisoners. The task forces with medium tanks leading were ordered to move out on their own towards Ludwigslust.

The leading elements of the task forces were only a few miles from the objective just two hours after they had started. This was a tribute to the speed and efficiency of the reconnaissance platoon in selecting their routes, and warning of enemy contact. They gave the task forces confidence, and as a result, the final assault by the tankers on the city of Ludwigslust was a picture of speed, shock action and maneuver—all fundamental cavalry principles. The city was taken with hardly a shot being fired. Prisoners of war, when interrogated afterwards, confirmed the fact that Ludwigslust was to be defended, and their intelligence had reported U. S. forces some 20 miles from the city early that morning. The sight of American tanks coming into town at 25 miles an hour without firing a shot, so disconcerted them, that the hasty defenses which had been prepared were never manned.

Troop B, 87th Reconnaissance, performed efficiently and with great speed on its reconnaissance mission. When its mission changed it had covered nearly 20 miles in two hours, reporting accurate information all the way.

The story of Troop B should end here with a brief "well done," but it cannot. These troopers were scheduled for another much bigger job. The troop was assembled following the seizure of Ludwigslust and given the mission of contacting the Russians for the 18th Airborne Corps. The details of this mission are graphically portrayed in Captain William A. Knowlton's account as presented in the *Reader's Digest* for August, 1945, entitled "Your Mission is to Contact the Russians."

Conclusion

Mechanized cavalry working with armored elements lends speed to armored action by providing timely route information and guides during movement into an action.

Cavalrymen Appointed In Regular Army

Regular Army appointments of wartime officers that were made in January, 1947, include the following Cavalrymen: Major Frederick H. Warren; Captains: Richard K. Strauss, Lund F. Hood, Jack C. White, and Richard K. Carver; First Lieutenants: Henry Frankel, Walter L. McCaddon, Robert L. Coughlin, John C. Neff, Hugh F. Queenin, James F. Simmerman, John W. Hopkins, Jr., Thomas J. Hanifen, Howard E. Bressler, and Kenneth C. Althaus, Jr.; and Second Lieutenants: Robert C. Petit, Jr., and Harry B. Hardy, Jr.

New Panama Reconnaissance Squadron

The 45th Cavalry Reconnaissance Squadron (Mechanized) was activated on January 16, 1947, at Fort Clayton, Canal Zone, according to information received from the Panama Canal Department.

Formed from the 1st Battalion of the 33rd Infantry Regiment, the new squadron will serve as part of the 33rd Combat Team under the command of Colonel Normando Costello.

The equipment of the new organization, according to Canal Zone information, will include the newest light tanks and armored cars. It will also be equipped with the latest type of individual arms and the most modern communication system.

Irish Mechanized Cavalry During World War II Period

by Captain Fergus N. Fitzgerald*

The Irish Army claims credit for being the first military force in the world to be completely mechanized. And so they were with their Cavalry Squadrons. Captain Fergus N. Fitzgerald, an ex-Cavalry officer in the Irish Army has written this article exclusively for the Armored Cavalry Journal. Captain Fitzgerald is also author of the series that has been running in this magazine on the "Russo-German Battles — 1941-45," which is concluded in this issue.

BEFORE considering the organization of the Irish Cavalry formations, it is necessary to know something of the army to which it belongs. The National Army, or Defense Forces, as it is now styled, came into being in 1921, on the conclusion of the Anglo-Irish Treaty, which set up an independent free state of Dominion status within the British Commonwealth. Almost immediately after its formation this army was called upon to fight a civil war against irregular elements who were not satisfied with the Treaty terms.

In actual fact this civil struggle does not deserve the title of "war," for there were no serious or prolonged operations. Areas in which the irregulars were in a majority were held and administered by them until the regular forces arrived. Then there would be a brief struggle, an ambush, and, in many cases, a surrender. The stronghold of "Republicanism" in Dublin city, the Four Courts, surrendered without a casualty, according to one pro-irregular author. The "war" ended in 1923, with the complete victory of the legitimate government.

Within the army, however, the civil war created problems. To keep order in the country, and as much to prevent rioting and looting as to combat the irregular elements, a force of 60,000 men was mobilized. But during the Twenties, with talk of world disarmament and pacifism, the Irish Free State was required, both as a member of the League of Nations and (a more effective influence) by the pressure of the taxpayers at home, to reduce the strength of the National forces. From 1922 until 1927 there were several demobilizations.

In the early Thirties the total strength of the army was below 5,000 for all ranks, with a reserve force of about 8,000 men. The government[1] decided to create a volunteer force of men who would do one night's training per week, with a two-week training period in camp each summer. This organization was operated on a basis similar to the United States National Guard.

When the outbreak of war caused the rapid mobilization of the reserves in 1939, the total strength of the army was about 21,000 officers and men. Before Christmas 1939, the reserves were stood-down, but in June and July 1940, the fall of France resulted in another mobilization, and in addition an immense recruiting drive. The forces thus assembled were kept on a war footing until 1946.

At its highest, early in 1941, the army totaled something over 45,000 officers and men. It was organized into two infantry divisions, each of three brigades (a brigade in the Irish Army is equal to a United States Infantry Regiment), each with three infantry battalions and supporting arms. In addition there were five infantry battalions and one infantry brigade as command troops, for the defense of the Eastern, Western, Southern and Curragh commands. Fourteen (cyclist) cavalry squadrons were deployed as frontier forces along the coasts and the border of Northern Ireland; and Armored cavalry squadrons were held as army troops in reserve. In all, the Irish Army was at the strength of an Army Corps of three divisions, with the usual corps troops. Despite journalists' tales of poor equipment, this "Army Corps" was as well armed as any United States Infantry Corps.

In second line came the Local Defense Force, similar to the British Home Guard, totaling over 100,000 men of all ranks.

Irish Cavalry Formation

The basic Irish cavalry formation was the squadron.

*Former Irish Cavalry officer who lives in Dublin.

[1]In 1932, the Fianna Fail Party, a constitutional party formed from the defeated irregulars of 1922, came into power as the Government. Its policy was "protected industry" at home (at the expense of Ireland's agricultural export market—the "economic war" with Britain was the result). Politically, Fianna Fail is Liberal-Socialist, and Nationalization is much more advanced at present in the Free State than in Britain.

In 1942, during large-scale maneuvers in the south of the country, an armored regiment was formed, but it functioned merely for the period of the exercises.

Irish cavalry had been mechanized since 1934. After experiments with the various forms of squadrons, the final establishment of 1940 laid down three types of cavalry squadrons, with three separate functions.

The first of these was the Motor Squadron. One Motor Squadron was integral to each brigade as its reconnaissance force. There were seven of these squadrons. A Motor Squadron comprised four Troops—three Motor Troops and one Armored Troop. Each Motor Troop contained five combat cars,[2] seven motorcycles, one combination motorcycle, with four Bren guns, one Anti-Tank rifle, one sub-machine gun, and rifles, revolvers, etc. The troop commander was a Lieutenant or Second Lieutenant. The Armored Troop had four armored cars, of various types (many were made in Ireland), armed with Vickers 303 caliber machine gun in a revolving turret. The troop was commanded by a Captain with a Lieutenant second-in-command.

A Headquarters Troop, with the usual supply and administrative echelon and defense troops, made a fifth troop to the squadron. The commander of the squadron was a Commandant,[3] with a Captain as second-in-command. Other officers were the Adjutant, Quartermaster and Technical Officer, all Lieutenants. Signal communication was provided by the Brigade Field Signal Company, in the form of a Radio Van for communication with Brigade Headquarters. Although not intrinsic to the squadron, lighter hand radio sets were sometimes provided for communication between the Troops and Squadron Headquarters. Motorcycle dispatch riders were used also. Medical, etc., detachments were supplied by the Brigade Field Ambulance and Service Companies.

The employment of the Motor Squadron was similar to that of the United States Divisional Reconnaissance Troop, except that there were three of these squadrons to an Infantry Division. Reconnaissance, flank protection and rear-guard and delaying action missions were most frequently given these units.

As Army Troops there were four Armored Squadrons, each of four Armored Troops of four armored cars, with motorcycles, etc., organized similarly to the Armored Troop of the Motor Squadrons. A number of Swedish Landsverk armored cars, a 50 and 303 caliber machine guns, co-axially sighted, in the revolving turret, and another 303 caliber machine gun beside the driver, were employed in the Armored Squadrons. These vehicles had many novel features—half-tracks could be fitted in place of the rear wheels; and they could be driven from the rear as well as from the front, thus making it possible to withdraw from a defile without turning the vehicle or reversing.

The employment of these squadrons was similar to that of the Motor Squadrons, but the Armored Squadrons would do for the division or corps what the Motor Squadrons did for their brigades. For this purpose they would have needed organization into regiments or Combat Teams on the United States Army system. In 1942, a provisional Armored Regiment was formed for maneuvers, but the staff was disbanded after the training period.

Armored Squadrons were commanded by a Commandant, and a Captain and Lieutenant held the position of Troop Commander and Second-in-Command of the Troops respectively.

In addition to the Armored Squadrons, a Carrier Squadron formed part of the Army Troops from 1940 until 1943. The Carrier Squadron was equipped with British Bren Gun Carriers, used as Armored Scout Carriers. Being tracked vehicles, these were more maneuverable than the armored cars, but lacked the heavy weapon armament.

One feature of these squadrons (and of the Motor Squadrons) was their lack of artillery and assault gun support. They were not therefore fitted for serious attack. Nor did any infantry force normally accompany the Armored Squadrons, although this deficiency could have been overcome in actual combat by the attachment of one of the Command Infantry Battalions. Many of the infantry battalions had trained with the cavalry squadrons.

The Irish Army had no tank units, although a few light tanks were held at the Cavalry Depot, mainly for training purposes. In the case of a small army, however, it is necessary to choose between quantity and quality, and it was felt that one tank formation (the most the country could have afforded in prewar days) would be of less value than the equivalent infantry. As a matter of fact, the Irish terrain is peculiarly unsuitable to the employment of tanks, as the United States troops who were stationed in Northern Ireland have reason to know. Apart from a few open spaces (such as the Curragh), the country is broken up by small fields (average about 200 yards square) surrounded by earth banks, stone walls and hedges, and by peat bogs in which tracked vehicles would quickly sink and become immovable. As regards the small fields, the Normandy countryside is very similar to the Irish, and the First U.S. Army and Second British Army Tankers learned only too well how limiting to mobility small, well-hedged fields can be.

On the other hand, it would be foolish to pretend that tanks cannot be used in Ireland, or that the army would have refused any offer of up-to-date models, once the war had started.

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[2]Known universally as "Bug Chasers," these were Ford V-8 chassis with light wooden truck bodies—equivalent of 15-cwt trucks—carrying a crew of six, armed with one Bren gun and rifles.

[3]The Irish Major was the same as the U. S. Lieutenant Colonel, but in February, 1947, the Irish rank of Major was replaced with that of Lieutenant Colonel, so that the Irish and U.S. are now identical on this point.

The remaining type of cavalry squadron was the Cyclist Squadron. These were frontier troops, similar to those used by Belgium and other countries up until 1940. There were 14 in all in the Irish Army. Nominally they came under the orders of the Officer in Charge of the Command Area in which they were operating, but in most cases they were attached for combat to a brigade. Thus each brigade had at least one and often two Cyclist Squadrons to supplement the Brigade Motor Squadron.

The Cyclist Squadron was divided into three troops and a Headquarters Troop, with one light machine gun per Troop. Three motorcycles mounted the Squadron commander (a Captain) and his two dispatch riders, while the remainder of the squadron traveled on push-bicycles. The strength of the squadron was 120 officers and men.

While the squadron had very unmechanized mounts, and was extremely lightly armed, it was an effective little force. Obviously, it was not fitted for reconnaissance in strength, but on night patrols it could move rapidly and silently. Its two main missions were security (flank protection of infantry) and independent raids. In the former case it could move with sufficient speed to be able to patrol the flank of an infantry battalion on the march and drive off light opposition, without falling behind the foot column. It was often used to screen a battalion occupying a defensive line, or to hold the open flank of such a line. On independent raids it could lie low in enemy occupied territory during the day and at night make forays, lay mines and conduct ambushes.

There were no inherent radio communications for the Cyclist Squadron, but when operating with a battalion it could borrow the company hand radio sets, and on raiding expeditions radio silence would have made the use of sets impossible, even had they been supplied.

Since the end of World War II, the Irish Army, like its counterpart in every other country, has undergone a radical change. New establishments have not yet been decided, but the Cyclist Squadrons, for one, exist no more, except among the Local Defense Force (Second Line) formations. However, the Irish Mechanized Cavalry Corps expects to receive new equipment in the form of light and medium tanks, and to be reorganized into a more powerful force. Developments during and since the war, both as regards equipment and organization in foreign armies, have been and are being watched with interest. And at least the Irish Cavalry Corps can boast that it was the first in the world to be completely "mechanized."

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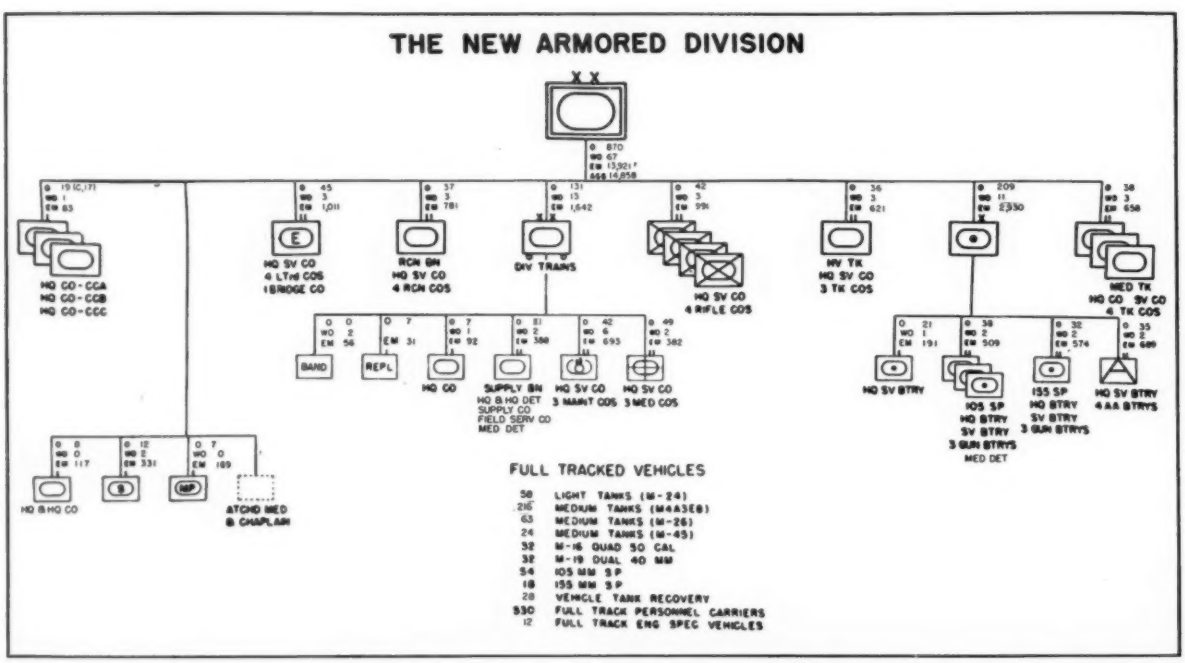

AAF Photo

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Bisected view of the new Republic P-84 Thunderjet showing that the rear section of the fuselage is quickly removable to permit complete replacement of the General Electric jet engine in 50 minutes.

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JET—
AAF'S NEW POWER PLANT

*by James A. Niland**

NOT since the brothers Wright proved mechanical flight possible, back in 1903, has aviation experienced the major change now manifest through jet propulsion.

The development of the jet engine, basis of jet propulsion, was brought to speedy fruition by the race for speed and altitude of World War II. Its American development was sponsored by the Army Air Forces after the Englishman, Frank Whittle, called the "father of jet," had achieved success in developing the basic principles of jet propulsion.

Jet-powered aircraft look very much like any other aircraft, both have a fuselage, tail assembly and wing, but the jet plane has no propeller. The absence of this seemingly essential part is a disturbing fact to those who have considered the propeller in the same light as the cables of an elevator.

Before the advent of jet engines all airplanes were powered by reciprocating, or gasoline engines, as they are more commonly known. The reciprocating engine provided the power to spin the propeller which is actually an air screw biting its way through the air and forcing it backward, giving the plane its forward thrust.

The jet engine is a long cylinder, open at one end and tapered at the other to a nozzle. The nozzle, which juts out through the tail of plane, exhausts the hot gases and pressure generated within the engine providing forward thrust for the aircraft.

The theory of jet propulsion is not a contemporary idea. The jet principle was a matter of common discussion among men of science 2,000 years ago. Although the fundamental principle was known and experimented with through the years, it only recently came into practical use because technical knowledge of the present day was able finally to produce the metals capable of enduring high turbine and nozzle temperatures.

During the first World War, the French experimented with jet propulsion, but made no headway. It took Frank Whittle to finally bring about its successful development. In 1930 he applied to the British patent office for a patent on a jet engine which he called the "gyrone." By the end of the decade he succeeded in getting a jet-powered plane into the air. The Italians, in 1940, also were able to fly a jet-powered plane and after a year of experimentation the Italian plane made it first flight from Milan to Rome. Hailed as "propellerless wonder," it averaged 150 miles for the entire flight. Five years later the Army Air Forces' jet-powered P-84 Thunderjet flew faster than 600 miles an hour.

With great secrecy, Whittle's engine was brought from England to the General Electric laboratories in September 1941 for final testing and redesign. GE engineers set to work to produce the first American jet

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*Headquarters Army Air Forces.

engine. Bell Aircraft at Buffalo, N. Y., started construction of the first jet plane, and working closely with both groups were the AAF's engineering and testing laboratories at Wright Field.

On the morning of October 1, 1942, the first American-built jet plane was flown by Robert M. Stanley, chief test pilot for Bell Aircraft. The next day Major General (then Colonel) L. C. Craigie took the plane into the air and thus became the first Army officer to fly a jet plane in America. The flights of October 1st and 2d were top secret and it wasn't until the late summer of 1943 that the news of a new American mystery plane was publicly announced. Described as "propellerless, swift as sound, and able to operate well above forty thousand feet," the Bell P-59A Airacomet was guided through its first public flight by the late Jack Woolams.

The Airacomet served its purpose well, being used extensively as a flying research laboratory. Meanwhile other Bell jet planes were used to train pilots to fly this new and revolutionary aircraft.

While aircraft manufacturers devoted time and space for jet-plane development, General Electric continued to improve the jet engine. Early in 1945, GE announced the completion and final testing of its new engine for installation in the Lockheed P-80 Shooting Star which was officially adopted the same year by the AAF as a fighter plane. The Shooting Star acquitted itself in admirable fashion for establishing speed records. First across the continent in 4 hours, 13 minutes and 26 seconds; then covering the 226 miles between Washington and New York in 29 minutes and 15 seconds. The same 226 miles are traversed by the fastest railroad train in 3 hours and 35 minutes.

All jet planes have an air scoop in the front end of the fuselage. The Shooting Star has two scoops, one on each side. The newest AAF jet plane, the P-84 Thunderjet, built by Republic, has one located in the center of the fuselage giving the plane the appearance of a wind tunnel with wings.

The air is sucked into the engine through the scoop where it is compressed by a swiftly moving impeller. The impeller whips the air into combustion chambers where the air mixes with the fuel and burns at intense heat. The hot air and gases pass through the turbine wheel, spinning it many thousand of times a minute, and then belch through the exhaust nozzle.

By comparison to a reciprocating engine, the jet engine is essentially a simple machine without carburetor or pistons and with only two moving assemblies. Furthermore the jet has no fuel problem, it runs on any fuel that will burn in air and can be blown through a nozzle. This permits large volumes of fuel to be prepared quickly and cheaply as compared with the elaborate and expensive process needed to produce high-octane gasoline for a reciprocating engine.

For its size, the jet engine is the most powerful in use today. One jet engine in a P-80 Shooting Star can deliver more power than two reciprocating engines in a B-29, yet its installed weight is less than half the weight of the Superfortress engine. The reciprocating engine, including the propeller, delivers one horsepower per pound of weight at best and includes hundreds of moving parts which demand servicing and complicated controls. The jet engine delivers four horsepower per pound and has only two major moving assemblies, the compressor and the turbine.

Moreover lubrication is comparatively simple with only the main bearings requiring a lubricant. This is made more simple by the low-consumption and load-carrying requirement of the oil.

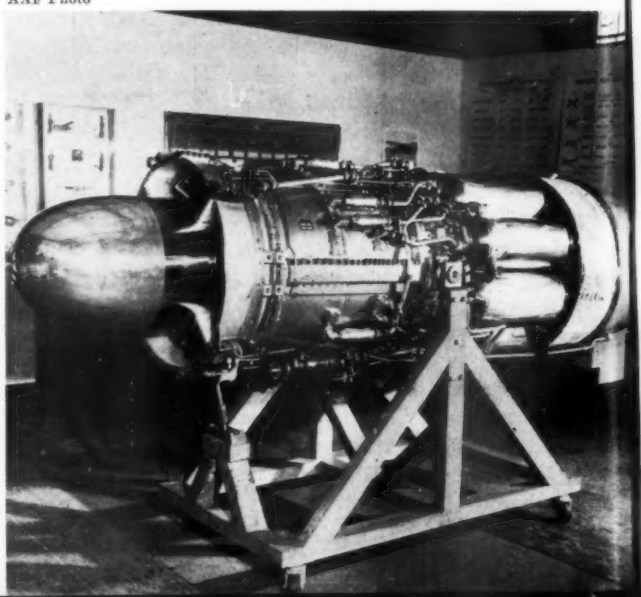
Jet propulsion to date has been the almost exclusive province of military aviation. The commercial advocates of this new power plant predict that the time is not far off when commercial airlines will cruise along at 500 miles an hour in smooth, vibrationless flight. On the latter point, they're right; AAF jet planes actually have vibrators installed in the pilot's cabin to make instruments function properly.

Engineers of Wright Aeronautical Corporation, however, say that many years of experimental work lie ahead before the jet engine finds universal application. Conventional engines will remain in demand for long-range transport indefinitely, while jets will come into use wherever operations at sonic speed are economical and militarily desirable.

Between these two groups is the Army Air Forces, pioneers in the development of jet engines in America. The AAF is making no predictions either for or against the jet engine, but has publicly announced a long-range program for the development of both jet and reciprocating engines. As in the past, American aviation will reap the benefits of the unending research and development of Air Force engineers and technicians at Wright Field and other AAF technological centers.

Engine of XP-84—Streamlined like a torpedo, this G-E axial-flow "Jet" has turbine, has been developed to drive military and civilian planes to great speeds on long flights.

AAF Photo



Editorial Comment

ARMY WEEK-APRIL 6-12

Financial Report For 1946

WE are more than pleased to submit the following financial report to our members.

Believe it or not, we actually made $543.00 profit last year—and that in the face of a substantial increase in the cost of printing and production and the general rise in the cost of overhead.

The standard of the JOURNAL both in format and reading value has been maintained at its high level.

Our Book Department business is increasing by leaps and bounds—(Have you taken advantage of our book service lately? If not, you are missing a rare chance to save money).

As editor of the JOURNAL, I feel that special mention should be given to the members of the JOURNAL staff who are solely responsible for the sound financial status of the Association. They have worked diligently and faithfully both editorially and administratively to make the business of running the Association and publishing the ARMORED CAVALRY JOURNAL a successful, streamlined organization.

Our sincere appreciation to Major Hal D. Steward, Associate Editor; Natica A. Brown, Business Manager; and Master Sergeant William R. Rossow, Circulation Manager.

FINANCIAL STATEMENT FOR THE YEAR 1946

Department	*Receipts*	*Expenses*
ARMORED CAVALRY JOURNAL	$ 9,186.90	$ 5,370.39
Book Department	1,530.02	1,090.97
Magazine Department	60.50	77.44
Armed Forces Digest	1,584.07	
Eleventh Armored Division Association	1,716.84	471.55
Rent and Rental Expense	900.00	1,853.28
Interest on Securities	172.43	
Salaries		2,176.49
Social Security Taxes		35.68
Withholding Taxes		259.50
Insurance		33.42
Stationery and Postage		847.08
Janitor		58.60
Office Supplies		306.42
Meetings and Proxies		66.45
Miscellaneous	81.51	347.99
Telephone and Telegraph		220.41
Bank Balance as of January 1, 1946	779.89	
Bank Balance as of December 31, 1946		2,796.49
	$16,012.16	$16,012.16

ASSETS

Bank Balance—December 31, 1946		$ 2,796.49
Stock on hand		
November-December JOURNALS	$ 150.00	
Office Supplies	300.00	450.00
ACCOUNTS RECEIVABLE		
Subscriptions		
132 12's Due Oct. 1, 1946	$ 396.00	
302 2's Due Dec. 1, 1946	906.00	
55 Bulk (Due bi-monthly)	165.00	
Book Department	107.80	1,574.80
SECURITIES		
12 Shares A. T. & T. Co.	$ 2,040.00	
12 Bonds A. T. & T. Co.	200.00	
2 U. S. Government Bonds	2,000.00	4,240.00
OFFICE EQUIPMENT		
Depreciated Value (5%)		1,627.00
TOTAL ASSETS		$10,688.29

LIABILITIES

ACCOUNTS PAYABLE		
Office Expenses	$ 82.63	
ARMORED CAVALRY JOURNAL	1,276.90	
Book Department	114.07	$ 1,473.60
PREPAID SUBSCRIPTIONS		
415 4's 1 issue	$ 91.30	
282 6's 2 issues	124.08	
588 8's 3 issues	388.08	
536 10's 4 issues	471.68	
221 12's 5 issues	243.10	
298 2's 6 issues	393.36	1,621.60
TOTAL LIABILITIES		$ 3,095.20
NET VALUE OF ASSOCIATION—Dec. 31, 1945		$10,063.18
NET VALUE OF ASSOCIATION—Dec. 31, 1946		$10,688.29
NET GAIN—VALUE OF ASSOCIATION for 1946		$ 625.11

Army Equestrian Team Once More In Action

Will Take Part In 1948 Olympic Games

by Colonel W. H. S. Wright*

IF present plans are carried through, the United States Army Equestrian Team will compete in the 1948 summer Olympic Games to be held in London, according to the latest information at Fort Riley, Kansas, home of the army team.

Authorized in the spring of 1946, the Army Equestrian Team participated this past November in the National Horse Show, which is held annually in New York's Madison Square Garden. Of the five big prizes in the military competition the United States team walked off with three—the Individual Military Championship, the International Low Score Championship, and the Bowman Cup.

In an effort to foster that aggressive type of training that, in the past, has contributed to the desirable qualities so characteristic of American military leadership, the Army Ground Forces is conducting horsemanship courses for selected officers and men at The Ground General School located at Fort Riley. All members of the Army Equestrian Team are instructors with the Department of Horsemanship.

Six officers and a suitable group of horses had been assembled at Fort Riley by late summer 1946 to train for top-flight horse show competition. The officers were: Colonels Earl F. Thomson, Milo H. Matteson, Franklin F. Wing, and W. H. S. Wright, all Cavalrymen; and Lieutenant Colonels Charles A. Symroski, Field Artillery, and Roy W. Cole, Jr., Cavalry.

Shortly before the National Horse Show was to take place Colonel Matteson was injured in a training accident and his place on the team was taken by Captain Jonathon R. Burton, also an instructor in the Department of Horsemanship.

Assembling a suitable group of horses presented quite a problem. Some old campaigners, members of the team from before the war, were at the Fort Robinson Remount Depot. Other younger animals had been trained and brought along at the Cavalry Replacement Training Depot and The Cavalry School during the war. A group of twenty-one captured German horses were brought to this country in September. They were all animals that had been captured by advancing American units during the final phases of the Battle of Germany. Some were known jumpers and others were believed to have ability. Unfortunately, the ship on which these German horses were sent to this country was required to turn around in midpassage to tow a derelict back to an English port. As a result, the horses were about 30 days on shipboard and many were slow in recovering from this trying experience and were therefore not ready for competition at the time of the New York Show. Of the eight horses making up the military team eligible for international competition, two were German horses, and of the two German horses, one is believed to have been originally a French horse "liberated" by the Wehrmacht from the French in 1940. For the benefit of those officers who have been stationed at Fort Riley or who may know some of the horses from before the war, the following is a list of animals taken to New York: *Rascal, Rattler, Democrat, Air Mail, Dinger, Reno Jumper, Nipper, Swizzlestick, Roll On, Two Star, Guilder,* and *Grey Fox.*

Since only four officers and eight horses from each nation were allowed to compete in military competition, the first eight horses listed comprised the United States Army's entry; the balance of the horses could not be used in military competition but went into "open" classes only.

Many foreign nations were invited but due to unsettled conditions and shipping difficulties, few could send teams. Canada, The Irish Free State, Great Britain, France and Italy, among others, were unable to send teams. Peru, Mexico and the United States were finally represented.

The Mexican and Peruvian teams were made up of four officers and eight horses each. Inasmuch as both countries had carried on with equestrian competition and show horse training during the war years, they gave promise of being formidable competitors. Their horses were small light animals with an unmistakable Anglo-Arab stamp, very accurate, very agile and beautifully schooled. Their riders were small, light men, experienced and keen competitors.

The New York show ran for six days with military classes both afternoon and evening except for the last two days.

The first event of the military competition occurred

*Member of the Army Equestrian Team.

on the afternoon of November 4, in the International Military Preliminary class. The first time around the course all four American horses went without a fault—*Rattler, Nipper, Rascal* and *Swizzlestick*. Three Mexican horses went clean. However, the event went to two jump-offs and ended up with the Mexican team placing first, third and fourth, and the United States, represented in the final jump-off by Lieutenant Colonel Symroski on *Nipper,* placing second.

The first evening, November 4th, saw the first event of the International Low Score Competition. This competition is won by the lowest aggregate score for three events during the first three days of the show. It is a highly prized international trophy keenly competed for. The first event consisted of two officers from each country riding two horses each, lowest total faults for both officers to win for the nation represented. In this, Mexico was again first with eight faults, the United States represented by Colonels Wing and Wright second with 11 faults and Peru third. Of the American horses, *Dinger* went clean, while *Reno Jumper, Democrat* and *Air Mail* performed well but not as accurately as the Mexican entries.

The second event of the low score competition took place on the afternoon of the second day. It was a pair jumping class, each nation to be represented by two pairs of horses. It was won by the U. S. Army Team's *Democrat,* an old campaigner, and *Rascal,* one of the German horses. Riders for this pair were Colonels Thomson and Wing. The other pair representing the United States, *Rattler* and *Dinger,* ridden by Colonels Thomson and Wright, marked up four faults. Second place was taken by a very good Peruvian pair and Mexico was third. The United States now moved into the lead in the over-all Low Score Competition.

The $1,000 International Military Stake took place the evening of the second day. Eight horses per nation could be entered, to be shown over a course which, as set up, was perhaps the most difficult of the show. Of 27 horses to start the course, only 11 were able to finish. This was due in the main to an extremely wide liverpool jump, and odd-distance in-and-out, and to a narrow time limit. When the broken timber and smashed poles had been cleared away, it was found that Mexico was first, Peru second and the United States entry *Democrat,* ridden by Colonel Wing, was third.

The third and final event of the Low Score Competition was a class in which three officers rode a course at the same time, riding in column and at a safe distance. The three American horses were *Democrat, Dinger* and *Rascal,* ridden by Colonels Wing, Wright and Thomson. On the first round of an eight-jump course the American entry went without fault, but this performance was tied by Mexico. On the jump-off, a knock-down by the last horse over the last jump placed us second to Mexico, with Peru third.

The lead gained by the United States on the second day was never overcome by either Mexico or Peru however, so the U. S. Team took the much coveted and keenly competed for International Low Score Competition Challenge Trophy.

The International Military Special Challenge Trophy was competed for on the third evening of the show. Each nation was allowed eight horses to be ridden by four officers, to be judged on a knock-down-and-out basis. The course was rather difficult, up to five feet in height the first time around, and of the 24 horses entered only four got around without fault the first time. These four jumped off, again knock-down and out, and Mexico's *Michoacano* ridden by Lieutenant Saucedo, the United States' *Reno Jumper,* ridden by Colonel Wright and Mexico's *Chihuahua* ridden by the team captain, Major Mariles, finished in that order.

The fourth afternoon was marked by competition for the International Good Will Trophy. This class, judged on a knock-down-and-out basis went to two jump-offs. By now the United States entries were beginning to come into their own and the free jumping, free galloping type of riding by our officers began to pay off. In an exciting and keenly competitive jump-off in which time counted, *Nipper,* ridden by Lieutenant Colonel Symroski of the U. S. Team, won the class in the excellent time of 27 seconds flat. Colonel Wing on *Air Mail* also went clean in the third jump-off and took second place with a time of 29 3/5 seconds. Peru placed third.

The Bowman Challenge Trophy highlighted the fourth evening's competition. Over a rather tricky course, the entry having the fewest faults and the best time wins. It may easily be seen that this is strictly a time class since four horses or more are pretty likely to go clean. All competitors realize this, and many spectacular rides, combining speed with accurate jumping, always result. Once again the American style of riding and the freedom allowed our horses paid dividends. Colonel Wing, riding *Democrat,* took the class in the phenomenal time of 29 3/5 seconds for the eleven-jump course. Major Mariles of Mexico was second on his veteran *Resorte,* Colonel Wing was third on *Air Mail* and Mexico was fourth.

The International Individual Military Championship was competed for on the next to the last evening of the show. In this class, three horses from each nation were entered and shown over a fairly stiff course going up to five feet in height. Four horses were tied the first time around; *Reno Jumper,* ridden by Colonel Wright, *Swizzlestick* ridden by Lt. Colonel Symroski, *Democrat* ridden by Colonel Wing, all of the U. S. Team, and Captain Alfaro of the Peruvian Team being contenders for the blue ribbon. The jumps were raised for the jump-off and *Reno Jumper,* ridden by Colonel Wright, got four faults as did Lieutenant Colonel Symroski on *Swizzlestick* and Captain Alfaro of Peru; *Democrat* got two knock-downs for eight faults. *Reno Jumper* then went clean in the second jump-off to win the class. Lieutenant Colonel Symroski and the Pe-

ruvian Captain Alfaro were again tied with eight faults but better time by Symroski gave him second, so the class ended with U. S. first and second and Peru third. This win marks the second time the United States has won this coveted trophy. It will be retired by the nation winning it three times.

On the final night of the show, teams of four horses from each nation competed for the International Military Perpetual Challenge Trophy, with the aggregate score of the best three horses of each nation only counting. On the first time around, the United States, represented by Colonel Thomson on *Rascal,* Colonel Wright on *Reno Jumper* and Lieutenant Colonel Symroski on *Nipper,* tied with the Mexican team, both teams having a clean score. On the jump-off however, Mexico took first, the United States second, and Peru third.

A feature of the show was the exhibition of dressage by Colonel Hiram E. Tuttle, Cavalry, retired. Colonel Tuttle gave two exhibitions daily of this difficult art, his horses performing with brilliance and precision the airs of the high school. Exhibitions of dressage by Colonel Tuttle have been a popular feature of the National Horse Show for many years.

The show ended with honors fairly evenly divided between the teams from the United States and Mexico. Of the five really big and highly prized classes, the Mexican team took two—the $1,000 Military Stake and the International Perpetual Challenge Trophy. The United States team took three—the Individual Military Championship, the International Low Score Championship, and the Bowman Cup.

During the war years Latin American countries were able to continue international military equestrian competition, whereas in the United States such competition was stopped altogether. Now that the U. S. Army is again able to be represented by a team, it is felt that it can soon make up for the time, training and experience it was necessary to forego during the war and that the United States Army can put teams into competition which will be a distinct credit to American armed forces, not only in international military classes at National Shows, but in the Olympic Games of 1948 at London.

The U. S. Army Equestrian Team, The Ground General School, Fort Riley, Kansas. Left to Right: Lieutenant Colonel Roy W. Cole, Jr., Colonel W. H. S. Wright, Colonel Hiram E. Tuttle, Colonel Earl F. Thomson, Team Captain, Colonel F. F. Wing, Jr., Lieutenant Colonel Charles A. Symroski, and Captain Jonathan R. Burton.

Photo by The Ground General School

OTHER BRANCHES

Major General I. T. Wyche

"As the world begins its entry into a hitherto unexploited scientific era of the atomic bomb, supersonic speed, and guided missiles we are forced to consider the inevitable complexities of strategic and tactical application of arms which scientific developments portend.

"The fact is neither new nor startling that in all great enterprises, military and commercial alike, including governments, individualism has to be subordinated to the common good. Our present efforts to create a logical and workable United Nations Organization bear witness to the fact that we believe in this truth.

"Cooperation is built upon a firm foundation of mutual understanding. Successful team play in the world of sports, for example, emerges only when each participant plays his part well—through an understanding of the duties of his fellow workers, or team members.

TABLE OF CONTENTS

Mission and History of the Inspector General's Department 38
By Major General Ira T. Wyche

Lawyer-Soldiers, Inc. 42
By Colonel William J. Hughes, Jr.

The Air Transport Command 44
By 1st Lieutenant Robert M. Sherman

Chaplains Role in the Army 47
By Chaplain (Maj. Gen.) Luther D. Miller

"As Confucius said: 'Ignorance is the night of the mind, but a night without moon or star.' The Other Branches Section, ARMORED CAVALRY JOURNAL, augmenting actual experience, provides the opportunity for us to dissipate our ignorance of the missions and activities of the other branches of the Service and paves the way for necessary military cooperation based on mutual understanding."

I. T. Wyche

Major General, U. S. Army,
The Inspector General.

INSPECTOR GENERAL'S DEPARTMENT

Mission and History Of The Inspector General's Department

*by Major General Ira T. Wyche**

THE existence of a War Department Special Staff Division known as the Office of The Inspector General is a fact known to most, yet there are many who are not familiar with the precise mission of the Inspector General's Department and its history.

Today, as from the beginning, the mission of the Inspector General's Department is to inquire into and report upon all matters that affect the efficiency and economy of the Army of the United States. The Inspector General is charged with keeping the Secretary of War and the Chief of Staff informed of the state of the Army. Accordingly, to pursue this mission, The Inspector General and his assistants find themselves engaged in inspections and investigations, as well as surveys and reviews, in Army commands and Army activities throughout the world. In contrast to a frequent misconception by some persons of the duties of inspectors general, the Department and all its members earnestly endeavor to assist commanders and other members and employees of the Military Establishment in the performance of their duties by supplying information when appropriate, recognizing and reporting meritorious conduct and performance of duty, and by suggesting ways and means to improve conditions—to improve conditions through constructive criticism is the keynote.

Moreover, it is the duty of an inspector general to inquire constantly into all matters that pertain to the efficiency of the command, including the conduct, discipline, living conditions and morale of units and individuals; the state of condition of arms, equipment and supplies; the economical, efficient and lawful expenditure of funds and property, and to report his findings to his commander with strict impartiality and to make recommendations for the correction of deficiencies and irregularities. Such reports should be accepted as representing sincere and honest intent in the interests of his commander and the service at large.

The various reports with which inspectors general find themselves concerned resolve themselves, generally, into five classifications: Reports of annual general inspections, Reports of special inspections, Action-letters, IGD, Reports of investigation, and Complaints.

There usually is nothing secret or confidential in the body of reports of annual general inspections. They are simply factual statements of conditions found during the inspection of any given command or installation. They are forwarded to The Inspector General, War Department, through normal channels of command so that all concerned will be fully informed of what those conditions are. In the body of each report of annual inspection, inspectors general must list, by subject, the number of action-letters, IGD they initiated during that particular inspection.

An action-letter, IGD, is classified according to the subject about which it is written. It may be secret, confidential, restricted, or in the clear. Such letters are written by inspectors general to report major irregularities or major deficiencies when and as they become aware of them. Such letters are forwarded through all interested headquarters and agencies to The Inspector General, War Department. Normally the indorsements thereon indicate that corrective action has been taken at the earliest practicable date by the appropriate headquarters in the chain of command. When the action-letter, IGD, finally reaches The Inspector General, War Department, he reviews it to determine whether or not the proper corrective action has been taken and makes recommendations accordingly. This procedure enables the commander on whose staff the inspector general is serving, and all other higher commanders, to become acquainted with the conditions existing within their command and gives them an opportunity to take timely action to correct matters under their control.

Reports of investigations and special inspections are normally "secret" or "confidential." They are submitted to the commander who ordered the investigation or special inspection to be made. However, once

*The Inspector General of the Army.

such reports are submitted, they become part of the records of the headquarters where the inspector general making the reports is serving. It is the commander's decision as to who may or may not see those reports, with one very important limitation. The Manual of Courts-Martial states that such reports are "privileged," which means that they may not be introduced as evidence in a court-martial unless the parties thereto consent.

In the case of an investigation directed by his own commanding general, the inspector general conducts the investigation and makes report thereof in the manner and form desired by his commanding general. No copies or report thereof is communicated to any higher headquarters, unless such commanding general considers such action necessary and proper in his own interests or the report brings up a matter the correction of which is beyond his control.

In the case of an investigation directed by some other higher authority, the inspector general functions for his commanding general in making the investigation and preparing the report. No such report of investigation is complete until his commanding general has indorsed thereon such remarks and recommendations as he may deem necessary and appropriate. After the commanding general has made his remarks and recommendations, the report of investigation is forwarded through channels to the authority who ordered the investigation. Those reports which are to be forwarded to the War Department are transmitted through channels to The Inspector General with such remarks and recommendations as intermediate commanding officers deem necessary and appropriate. In no case is a report of investigation forwarded except through the office of the commanding general on whose staff the inspector general is serving.

Inspectors general do not ordinarily start formal investigations of their own accord but only when directed to do so by the commander on whose staff they serve. Yet, in the course of any duly authorized inspections should there come to the attention of an inspector general conditions or circumstances indicating a major irregularity or a major deficiency, it is the duty of that inspector general to find out all the facts so that the proper authorities may take corrective action. The same is also true in the hearing of complaints. Inspectors general must hear the whole story when a complaint is being made, verify the facts and then submit fair and impartial recommendations in each case. Only in this way can the Inspector General's Department accomplish one of its principal missions, which is to protect the best interests of the military service and the rights of its individual members.

Through procedures established by the War Department all personnel of the Army, both military and civilian, have an opportunity to register their complaints and individual grievances to an inspector general not less frequently than once a month. Commanders who are thus given a new working philosophy for improving efficiency and morale within their commands are directed by War Department Circular 74, 1946, to encourage frequent contact between their personnel and the inspectors general and to keep all individuals acquainted with the procedures for seeking redress for alleged grievances "through the generous use of bulletin board notices, posters, training talks, or other information media." They are further directed (1) To follow through on each complaint to see that appropriate corrective action is taken; (2) To see to it that no retaliatory action whatever is taken against any complainant for having made a complaint; (3) To inform each complainant in writing of the final action taken on his complaint; and (4) To keep a record of all complaints received in order that apparent or potential defects in command and administration may be determined and corrected before they reach major proportions.

Every soldier now can be sure that his grievance, however large or small, will be handled immediately, either by his commander or by the local inspector general. He may go directly to the inspector general, without seeking permission or applying through channels; and he will not be discouraged from doing so whenever the need arises.

An inspector general should have the confidence of the entire command under all conditions. He should never be placed in a position nor permitted to conduct himself as a "super-snooper." He is distinctly a member of the command on whose staff he is serving and should be permitted and required to share in the responsibility of the accomplishment of its mission.

Surprising to some will be the fact that the Office of The Inspector General began its historical activities over one hundred and sixty-nine years ago—on December 13, 1777, to be exact. It was during this period that General George Washington assembled a council, whose final decision, signed by every member, was that "such an office was desirable." As a result Congress, on December 13, 1777, created the Office of The Inspector General of the Army. This action of Congress made The Inspector General independent of every authority except that of Congress itself, but that was not of long duration. On February 28, 1779, The Inspector General was made answerable to the War Board, the Commander in Chief, and Congress.

In March, 1778, about a month after Baron Frederick William Augustus von Steuben had reported to General Washington, the latter published an order announcing that the Baron had "obligingly undertaken the exercise of the Office of The Inspector General of the Army." Therefore, it may be properly said that Baron von Steuben was the first Inspector General of the Army. This was followed by a letter to Congress in which Washington explained the ill consequences arising from a want of uniformity in discipline and instruction throughout the Army, and the necessity for a well-organized inspectorship, explaining what had

been done by Baron von Steuben. As a result of this correspondence, Congress, on May 5, 1778, approved Washington's plan and appointed Baron von Steuben The Inspector General with the rank and pay of Major General.

Not too unlike the duties of an inspector general today, the duties of The Inspector General in those early days, in the main were: to muster the troops monthly, noting the number and condition of the men, their discipline and drill, state of arms and equipment, clothing, rations, etc., to reject unserviceable recruits, and to discharge or transfer to the invalid corps all men disabled in the service, and to report all abuses, neglect, and deficiencies to the Commander in Chief, the commander of the organization, and to the Board of War.

Shortly after the year 1865, the War Department published an order defining the duties of the Inspector General's Department to include "all matters pertaining to the military art or having interest in a military point of view." It is thus seen that the sphere of inquiry was made to include every branch of military affairs and was limited only by orders issued in specific cases.

Later, in 1874, the inspector of disbursements was required by law, and it was directed "that officers detailed for this duty should not be in any way connected with the department or corps making the disbursements." Under this ruling, inspectors general were made responsible for any defalcation or misapplication of public monies or property which "an active vigilance on their part might have detected."

The Secretary of War, in April 1876, directed The Inspector General to report on military control and discipline. Reports of inspectors general were to be forwarded, through regular channels, to The Inspector General's Office, and inspectors general were ordered to note on such reports the remedies applied, and all superior officers were directed to indorse on them their action "for the information of the General of the Army."

Subsequent reorganization of the Inspector General's Department took place in the years that followed and under the National Defense Act of June 3, 1916, in addition to all the traditionally accepted responsibilities, another duty was assumed by the Department. This involved systematic inspections of the National Guard.

During World War I, one or more officers of the Inspector General's Department were on duty with each combat division and at each of the large camps or cantonments in the United States. In addition to such inspections of camps, divisions and units as were made by their own inspectors, each division was inspected at least twice, before ordered overseas, by inspectors general from The Inspector General's Office. This was one of the most important functions performed by inspectors general, resulting in the detection and prompt correction of many irregularities and deficiencies, in the elimination of certain unfit officers and in the promotion of certain others whose efficiency warranted it.

In his preliminary report to the Secretary of War, dated November 20, 1918, in reference to the organization and operations of the American Expeditionary Forces from May 26, 1917, to the signing of the Armistice, November 11, 1918, General John J. Pershing stated:

> "The Inspector General's Department has risen to the highest standards, and throughout has ably assisted commanders in the enforcement of discipline."

As the Army expanded to meet the needs of global warfare, in World War II, so the Inspector General's Department had to expand to meet the demands of the War Department and to satisfy the requirements of each new command for an inspector general. This brought about an increase in the Department from 60 officers in 1939 to 1,438 officers early in 1945. Like many other staff organizations, The Inspector General experienced considerable difficulty in obtaining officers with the required background and military experience needed to fulfill the duties of an inspector general; therefore, intensive training programs were instituted.

Soon after troops began moving from their training areas to ports of embarkation, and thence by ship to overseas theaters of operations, another group of officers became necessary as members of the Office of The Inspector General. This group was known as the POM (Preparation for Oversea Movement) Inspection Group, which, by direction of the Deputy Chief of Staff, inspected units prior to departure to ports of embarkation, to give assurance to the Chief of Staff that the organization and equipment met the necessary requirements of the theater for which they were destined.

No sooner had American troops landed overseas than individual complaints, such as those regarding treatment, conditions, pay, and food, began coming back through various channels to the War Department. To meet this new requirement for inquiry and investigation, an Overseas Inspections Division was organized in the Office of The Inspector General, and its members were soon being dispatched to all parts of the world, by land, sea and air.

Also with every major unit going overseas went an inspector general, to every far-off land and corner of the earth. Several division commanders, during the combat periods of their divisions in World War II, used their inspectors general, in addition to other duties, as heads of boards or committees to inquire into, and submit recommendations for, citations and decorations. Probably no other staff member is better suited for such services than the inspector general of the command.

Inspectors general working out of the War Department, that is, Office of The Inspector General, are basically in the same category as staff inspectors general in the field. The Inspector General of the Army functions as a staff officer for the War Department and as an assistant to the Chief of Staff, as implied in the previous

discussion of his duties and responsibilities. His inspectors general are confidential agents of the Secretary of War and the Chief of Staff, or the Commanding Generals, Army Ground Forces and Army Air Forces, who may request inspections, investigations, surveys, or studies. Similarly, the inspectors general assigned to field commands are confidential agents of their commanders. Their investigations are confidential, unless a different procedure is prescribed by the authority ordering the investigation.

Inspectors, whether they represent The Inspector General of the Army directly or the commander on whose staff they serve, seek the truth without fear or favor. Their findings are immune to the influence of commanders. The high standards of personal integrity of inspectors general make it possible for the commander to be sure that the facts on the question at issue have been presented to him in a completely impartial manner.

Of particular interest in the field of inspections is the specialized inspection relating to procurement activities and construction operation on a cost-plus-a-fixed-fee basis throughout the Army. The bulk of this class of inspections is allocated to the Office of The Inspector General. Usually they are performed by the Procurement and Construction Branch of the Inspections Group which is particularly qualified to handle such assignments. Savings to the Government brought about as the result of corrective action taken upon the reports of inspections made by members of this division totaled many millions of dollars.

The Deputy The Inspector General assists The Inspector General in carrying out his mission and acts for him during his absence from the War Department; supervises and coordinates the operational functions of the Office of The Inspector General and of the Inspector General's Department as a whole.

The Assistant The Inspector General makes inspections and investigations and conducts special inquiries, studies and surveys pertaining to Negro personnel and related matters.

The Special Assistant to The Inspector General serves as consultant in special subject assignments requiring detailed analysis and technical knowledge. He is available as consultant to the various subdivisions of the office.

The Executive prepares, enunciates, and puts into effect policies of The Inspector General governing the activities of the Office of The Inspector General and the Inspector General's Department as a whole; exercises general administrative supervision over all activities of the Office of The Inspector General and acts as Chief of the Personnel and Administrative Group and acts for The Inspector General during the absence from the War Department of The Inspector General and his deputy.

Three Groups comprise the body of the organization of the Office of The Inspector General, namely, the Personnel and Administrative Group, the Inspections Group, and the Investigations Group, each with operating subdivisions known as Branches.

The Personnel and Administrative Group supervises all matters connected with the procurement, assignment, reassignment, and promotion and reclassification of commissioned personnel of the Inspector General's Department in the War Department Special Staff and in commands, installations, and activities under control of chiefs of administrative and technical services and other War Department agencies, and of civilian personnel of the Office of The Inspector General; coordinates and supervises the activities and functions of the several branches assigned to the Group—IG Branch of the Central Officers' Assignment Group, and Personnel, Office Service and Field Service Branches; prepares office memoranda, directives and orders; maintains historical records and performs other miscellaneous work pertaining to the administration of the Office of The Inspector General.

The Inspections Group supervises and coordinates activities and functions coming within the scope of the several branches assigned to this group—Inspections, National Guard Inspections, Procurement and Construction Inspections and Complaints Branches; formulates policies concerned with the inspectional activities of inspectors general throughout the Army, and determines inspection jurisdiction.

Finally, the Investigations Group supervises and coordinates activities and functions coming within the scope of the several branches assigned to this group—Investigations, Reviews and Fiscal Branches; determines the appropriate jurisdiction for such investigations as are referred to The Inspector General by higher authority; formulates policies concerned with investigational activities of inspectors general throughout the Army.

Although the number varies from time to time, as of February 1, 1947, there were on duty in the Office of The Inspector General a total of 59 officers. The remainder of the officers detailed in the Department are assigned to, and function as staff officers of, the commanders of the field forces—armies, corps, divisions, Air Force units, army areas, training centers, and other key installations.

The Army operates under laws passed by Congress and under regulations issued by the War Department implementing those laws. While it is a command function to see that such regulations are followed, it is the function of the Inspector General's Department and its members to see that the enforcement of such regulations is done lawfully, in the best interest of the service, and in a manner which guarantees justice to all.

Justice is not a matter of opinion; it is the result of law. Therefore, no man can be punished for reporting an injustice to himself because it is his right and privilege to do so. It is the duty of The Inspector General to see that his proper rights are preserved.

JUDGE ADVOCATE GENERAL DEPARTMENT

LAWYER – SOLDIERS, Inc.

*by Colonel William J. Hughes, Jr.**

MORE than 2,800 officers, including one major general and 10 brigadier generals, administered the American Army's legal system when the Army was at its peak strength in World War II. Although the Judge Advocate General's Department is smaller in numbers today, it still has a big job.

Headed by Major General Thomas H. Green, The Judge Advocate General, who as legal adviser to the Secretary of War communicates with him directly on all legal matters, the Judge Advocate General's Department is composed, in peacetime, of approximately 125 officers of the rank of Captain or above. The present emergency strength of the Department is 408 officers broken down into the various ranks as follows: 90 Colonels, 112 Lieutenant Colonels, 95 Majors, 89 Captains, 15 First Lieutenants, and seven Second Lieutenants.

Every officer exercising general court-martial jurisdiction has a staff judge advocate; during the war each Service Command, each Division, Corps, and Army and each Theater of Operations, and, of course, SHAEF and SCAP. Besides these organizations, hundreds of judge advocates were legal advisers to various branches of the War Department, ports of embarkation, ordnance depots and arsenals. All these officers come under The Judge Advocate General and except in the Air Forces and in foreign theaters, are assigned by him at Army level to their respective duties.

A serious duty of the staff judge advocate concerns courts-martial trials. No case is referred to a general court without his advice; no sentence is approved by the commanding officer until he has read the judge advocate's review of the evidence and considered his recommendations. Subsequent to approval the case goes to the Judge Advocate General's Office in Washington. If the sentence involves a dishonorable discharge and its execution is not suspended, the case is examined by the statutory Board of Review of three officers of the Judge Advocate General's Department, which has power in the event it finds it illegal to hold the record legally insufficient, in which event if The Judge Advocate General concurs, the findings and sentence are set aside. All records of trial involving death or the dismissal of officers are likewise reviewed by the Board of Review, which has in general the same legal powers in this type of case.

In cases wherein the reviewing authority suspends the execution of the dishonorable discharge, and in all other cases of conviction by general court-martial, no matter what the sentence, the legality of the record of trial is determined by the Military Justice Group in the Office of The Judge Advocate General. If on examination the record of trial appears legally insufficient, the case is transmitted by the Military Justice Group to the Board of Review, which has the final say.

An important branch of the Judge Advocate General's Office is the Clemency Branch, which examines all cases of general prisoners for clemency, correlating psychiatric and other data, prison behavior, possibility of rehabilitation, and makes recommendations accordingly for reduction of the sentence. As might be supposed, the Clemency Branch is in almost constant communication with wives, mothers and members of Congress.

The staff judge advocate's duties in special court-martial cases are somewhat similar to his activities in general court cases, except that the legality of the record of trial is determined finally, on his advice, by the officer exercising general court-martial jurisdiction.

Records of trial by summary courts-martial appointed by company commanders or otherwise, are likewise transmitted to the staff judge advocate who checks the charges, findings and sentence for legality.

The military justice duties of the staff judge advocate account for over 50 per cent of his time. The remainder is devoted to matters involving military affairs, claims, contracts, litigation, etc. He advises his chief as to proceedings of Disposition Boards, Line-of-Duty Boards and various investigative boards. A large part of this time is involved in keeping the work of the headquarters in line with Army regulations, which the War Department sends him on occasion. The staff judge advocate is also the liaison officer with the civil authorities and negotiates the surrender to the Provost Marshal of men held in the town lock-up. In time of war, on the civil side, a judge advocate spends considerable time passing on claims arising out of the Army's occupation of either friendly or enemy territory. It is not generally known that an Army is not the rent-free guest of a friendly country; it pays for everything it gets and the judge advocate passes on the bills or the contracts resulting from the Army's occupation. He is required to be a real estate and contracts expert and to know the law of the foreign country in which the Army is stationed.

The judge advocate is also an expert in domestic re-

*Office of the Judge Advocate General, War Department.

lations. On the march, all those in marital trouble, or looking for it, consult him. He frequently refers the matter to the chaplain and vice versa. Also, he runs a sort of Legal Aid Bureau to which any member of the organization can apply for free legal advice.

During the war The Judge Advocate General advocated and obtained decentralization of his Department. An Assistant Judge Advocate General, armed with a Board of Review and a Military Justice Group, was appointed for each foreign theater. Final action on courts-martial cases could then be taken in the theater without the necessity of transmitting the record of trial to Washington for action. Even in death cases the legality of the findings and sentence could thus be determined overseas in the foreign theater. There were 146 executions in the United States and all the theaters combined during the war and only one execution for a purely military offense, an aggravated case of what amounted to desertion in the face of the enemy in the European Theater of Operations. From July 31, 1940, to September 30, 1946, 1523 officers were dismissed, counting the United States and all theaters.

The Judge Advocate General's Office seldom hits the front pages. It is always the unusual case which makes the headlines. Thus, when Weber, an alleged conscientious objector in California, refused to obey an order to drill and a court-martial sentenced him to death, the hue and cry against severity of court-martial sentences reached astronomical proportions and caused indignation meetings from here to China. In contrast, the sentence finally approved, dishonorable discharge and five years' confinement, was not news and no one heard of it. Similarly, the McGee case caused furious protests from veterans' organizations all over America. McGee got two years' confinement for striking some German prisoners of war. Public protest made McGee out as a martyr and a hero, the victim of the iron severity of a discredited system. The fact that he had 13 previous convictions was not given much publicity at all.

The Judge Advocate General's Office in Washington has two main branches, the Military Justice Group, just described, and the Military Affairs Group. Each group is under an Assistant Judge Advocate General, a brigadier general. The Military Affairs Group strives manfully with Army regulations, legislation, opinions of the Comptroller General, and is the last word on matters of pay and allowances, promotion, discharge and retirement.

The International Law Branch of this Group prepares opinions on questions of international law, including the laws of war, prisoners of war, enemy aliens, relations with our Allies, military government, and maintains close liaison with the Department of State, which, on a parity with the Supreme Court, is the fountain source of international law in this country.

The Legal Assistance Branch supervises the operation throughout the Army of the legal aid plan put into effect during the war. It provides legal advice and assistance to military personnel with regard to their personal legal affairs. No one who has not had the experience can realize the worry caused the soldier who finds out in a foreign land that his domestic or business affairs require immediate legal attention. The War Department plan was designed to and did solve this problem by giving the soldier individual legal advice on all matters relating to his personal affairs, business or domestic. The judge advocate, for better or for worse, takes over.

The Claims Group deals with claims for damage, for loss or destruction of property or for personal injury or death caused by military personnel or otherwise incident to activities of the Army. The story that it is still settling Civil War claims is a canard, but an occasional payment of a Spanish War claim brings a quiet smile of achievement to the Group Chief. Recently, the Claims Group has added the enormously wide jurisdiction conferred by the Government Tort Claim Act which for the first time permits suit against the Government for death or injury to person or property arising out of the negligence or wrongful act or omission of any employee of the Government while acting within the scope of his employment. A 48th Wrapper Indorsement on one of these claims caused a mild stir, as the Act only became effective last August, but it turned out the claimant was insane and had forged the 48th Wrapper Indorsement as he said, "just to give the claim a good start."

The Litigation Group handles all War Department litigation through liaison with the Department of Justice. Thousands of suits are filed against the Government as a result of War Department activities involving claims based on contracts, suits in admiralty, tax suits, etc. Certain suits are likewise filed by the War Department to recover money rightfully due from individuals. A large volume of business arises out of cost-plus and fixed-price contracts made during the war, to which have now been added the portal to portal pay controversies.

The Contracts Group of the Office supervises War Department contracts in all their aspects and surety bonds required by the War Department in connection therewith.

War Department interests pertaining to patents, of enormous value and extent, are handled by the Patents Group.

Lastly, the Military Reservations Group takes care of the real property in which the War Department has an interest, passing upon all questions of title, and the acquisition and disposition of real property under War Department control. During the war, the War Department took the title to 33,000,000 acres of private lands and "borrowed" 28,000,000 from the public domain, leasing an extra 9,000,000, mostly in the South.

The Judge Advocate General's Office is thus one of the largest and busiest law offices in Washington.

ARMY AIR FORCES

The Air Transport Command

by 1st Lieutenant Robert M. Sherman

It is difficult to grasp the full implications of the vital role which the military air carrier will play in this era of atomic weapons, guided missiles, and long-range bombers like the 10,000-mile B-36. One is forced, however, to agree that strategic air transport must unceasingly improve and strengthen itself toward the day when its full energies may be sorely needed in the preservation of our national security.

THE Air Transport Command of the Army Air Forces, which had reached a strength at its peak in World War II of 3,000 aircraft and a quarter of a million personnel, represented a military air machine stemming directly from the lessons of modern warfare. Conceived, born, and nurtured in World War II, it was tested and developed in all theaters of operation.

Established on May 29, 1941, as the Air Corps Ferrying Command, it was given the responsibility of ferrying aircraft for the British from U. S. factories to transfer points and transporting essential passengers and mail between the United States and the United Kingdom. Under the pressure of war needs its activities had been expanded inside of a year to include the operation of a world-wide air transportation system and the delivery of aircraft to all Allied forces. By June 20, 1942, when the Ferrying Command became the Air Transport Command, it had accomplished or supervised the delivery of 13,513 aircraft to final domestic destinations and 638 aircraft to final foreign destinations, as well as transporting 1,920 tons of passengers, cargo, and mail. Brigadier General Robert Olds, the first Commanding General of the Command, was succeeded in April, 1942, by Lieutenant General Harold L. George, who continued in this capacity until 20 September 1946, when Major General Robert M. Webster assumed command.

In December, 1942, ATC was given the hazardous job of flying the "Hump"—transporting supplies over the Himalayas from Assam to China. Previously, the greatest load carried to China in any one month had been 1,136 tons. ATC vigorously attacked this problem, and air-carried 2,278 tons in March, 1943; 18,975 in July, 1944; and finally the record total of 71,042 tons in July, 1945. Elsewhere, other ATC services were expanding. As the Allies advanced on fortress Europe from North Africa and across the channel from Britain, ATC followed. In the Pacific, as the Japanese were forced back toward their home islands, ATC routes moved northward, until the main line no longer ran to Brisbane, Guadalcanal, or Saipan, but to Tokyo.

In addition to ferrying aircraft and operating regular transport services, ATC conducted from the time of its origin a wide variety of special missions. The President of the United States was flown to international conferences, whole troop units with full equipment were flown into battle areas, and thousands of troops were redeployed to this country from the Mediterranean and European Theaters. Of notable significance was its air evacuation of the sick and wounded.

Today, in the Air Transport Command, there is the repository of the experiences, skills, and methods which are its wartime heritage of this global air supply operation. A future war will make this nucleus the core of an Air Transport Command far larger and with duties immeasurably greater than those imposed by World War II. The demands of a future war will make it imperative that the forward echelons be supplied with matériel which in tonnage alone will dwarf any previous logistical problems. Such a conflict would require huge tonnages to be flown to the Strategic, Tactical, and Defense Commands. Only an air transport organization able to support the scope and intensity of future warfare would be adequate to such an emergency.

How atomic warfare may come to this nation has, of course, been the subject of numerous studies. But no

matter whether it would come from the north with a thousand bombers crossing the Polar Basin and laying waste our industrial centers, or from some other direction, or by some other means, it would undoubtedly have as its main objectives our most vulnerable points. And admittedly we are open to the menace of the atomic weapon, for our American civilization, which knew no such threat when it was in the building, exposed itself in every quarter. Our lines of communication may be cut, our nerve centers made useless; war potential will be bottled up in production centers, which, if not themselves damaged beyond usefulness, will be without the means of distribution. National morale will be dealt a reeling blow from which recovery would be difficult if not impossible.

The suddenness of such an attack makes air power one of the best ways in which it can be fought. Especially will the role of air transport be a vast, complex problem to be handled with understanding and efficiency. The effectiveness of rapid aerial supply was dramatically demonstrated during the last war when, during a critical phase of the North African campaign, a hurry-call came from Field Marshal Montgomery. Urgently needed were several tons of 37mm antitank shell fuses. Quickly, Air Transport Command flew this vital ammunition to him from this country in time to hold Rommel until Montgomery had amassed enough reinforcements to repel the Nazis.

Then, too, there will be factories which may have to be dismantled and later re-assembled at some safe location. Air lift, which for speed of movement is unchallenged by any other carrier medium, will be vital for such an operation.

Air Age Imposes New Tactics

During the last war, besides carrying essential war cargoes, ATC was called upon to carry an amazing variety of cargo, including such things as horses, insect powder, airplane tires, and bicycles. For a future war, its cargo list will continue to grow; there must be no product that cannot be air-lifted. Product engineers, who saw how ordnance built many of their weapons in conformity with air cargo size requirements, must have such needs in mind when they are called upon for new designs and styles. The requirements of air lift are a part of the new thinking which has been imposed upon us by the Air Age.

The supplying and movement of offensive forces by air, an undertaking which in this last war had come to be of constantly increasing value, had been developed by Air Transport Command to a point where no obstacle, natural or man-made, was allowed to interfere with this operation. Carrying guns, bombs, rifles, mortars, and jeeps, Air Transport Command skirted mountains and defenses, reduced days to hours, and made even the most isolated Pacific outpost as accessible as the nearest airfield. In southern Okinawa, during the battle of Shuri Ridge, an urgent request for mortar shells by the late Lieutenant General Simon B. Buckner was filled by air with 200 tons sent from Hawaii. This would have taken precious days by surface vessel; air carrier accomplished it in 28 hours.

Cargo more precious by far than war matériel were the sick and wounded which air evacuation with its speed and comfort flew from battlefields to inland medical centers. Begun in 1943, air evacuation reached its greatest volume in 1945 when the Command carried a total of 212,819 patients, nearly two-thirds of them on international routes.

Today, nearly 15 months after V-J day, our occupation forces are tied together by this rapid and reliable air bond; our overseas forces receive their necessary supplies rapidly and efficiently.

Skeleton World Network Still Exists

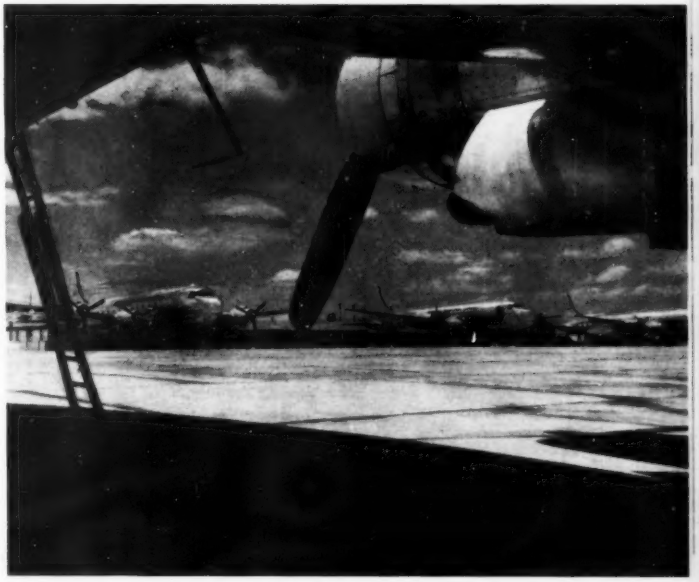
The world-wide scope of ATC has shrunk from 10 wartime divisions to the present three, the Atlantic, Pacific and European, but in this March of 1947, three planes a day are still winging their way into Tokyo, with two planes a week going to Shanghai. Daily, six flights go westward to Hawaii from California, with four to Guam. Five times a week flights go to Manila.

From our East coast the Command's planes are still plying the Labrador routes to Iceland and the Newfoundland route to the Azores, then proceeding on to Europe. From the European continent, ATC planes still fly the routes to Casablanca, Dakar, and Roberts Field, Liberia.

The supply depots for the armed forces in the United States are also linked to the aerial ports of embarkation

From the shadow of a wing of Air Transport Command's giant cargo carrying "Skymaster," are seen three of the fleet of these aircraft which served so well to make the aerial highways of the world one continuous supply path for the unceasing demands of the war just won.

AAF Photo



by a vast network of routes. The Command's traffic is lighter than at any other period in its history, but the routes maintained are still a healthy, smoothly integrated supply network.

As vital as this supply service is to our occupation forces, it is secondary today to the importance of the training operations it engenders. A minimum of trained personnel must be available to man all the key positions in order to maintain a state of emergency readiness and meet the need for sudden expansion in the face of air transport requirements. Especially is this true of capable pilots. To train a pilot takes almost a year. At the end of that period he is still incapable of flying today's huge transport aircraft under all the conditions encountered in such operations. It is in the Air Transport Command that his initial transition is translated into the vital day-to-day actual experience so essential to producing a finished transport pilot.

Experience Must Be Maintained

Additionally, the Command must keep in its organization a certain number of experienced crews. These crews, instructing and supervising, will enable the Command to expand its strength in an emergency.

The piloting of the aircraft is only one phase of an air operation, although its importance cannot be denied. In a global air carrier picture, the bases which make up the whole are essentials in the working of the route proper. Qualified operations men are needed to check the loading and flying of aircraft at their particular locations. There must be experienced engineering officers to supervise maintenance of the planes. Traffic men must put their specialized knowledge to work making the smooth flow of cargoes and the proper allocation of priorities a characteristic of this operation. There should be sufficient officers trained in ATC administrative methods and with enough maturity and executive ability to command properly the bases which such a future expansion will dictate.

At its peak, Air Transport Command consisted of over a quarter million personnel, comparing favorably with some of our larger industrial establishments. Like those industrial giants which depend upon close coordination between management and labor for their greatest effectiveness, ATC, too, depends upon the high skills and specialized knowledge of its personnel. Although contracted in size and reduced in physical plant, the Air Transport Command has the important temporary task of air-lifting essential cargo to our occupation forces, thus furthering its operational, administrative and executive skills in order to be instantly operational in the event of a war emergency.

An analysis of future trends shows that the present small size of the Air Transport Command is completely inadequate to handle the vastly expanded range of tasks for which it will be called upon in the event of a future conflict. New jobs, dictated by the relentless demands of modern warfare, will be set before it. Its World War II role will be but a pale shadow alongside the looming demands which such a future conflict would engender. Obviously, a firm foundation for such an undertaking is an absolute necessity.

Just as an ocean-going vessel of any moderate draft requires a fair harbor with adequate dockage facilities, so land-based aircraft need airports. While facilities at airports can be quite meager and still supply those certain bare essentials which will enable aircraft to land, be serviced, and leave again for their destination, there is a certain irreducible minimum below which safety and health are endangered.

Today, under the impetus of enforced economy measures, many Air Transport Command bases have been reduced to such a minimum condition. However, their value as links in the chain connecting our occupation forces remains as great as ever. But their future worth extends beyond this important function. It is as stepping stones to the outer rim of this country's defenses that they will play their most important role should a war emergency arise. No single base should be relied upon solely, just as no one route can be considered adequate. There must be alternate routes and bases to make for complete reliance and to guarantee that after leaving the Port of Aerial Embarkation the aircraft will reach their destination.

Air evacuation of the sick and wounded, an Air Transport Command operation begun on a significant scale in 1943, reached its greatest volume in 1945, when the Command carried a total of 212,819 patients, nearly two-thirds on international routes. Seen here is the method of administering plasma to the wounded while in flight.

AAF Photo

CHAPLAIN CORPS

CHAPLAINS ROLE IN THE ARMY

*by Chaplain (Major General) Luther D. Miller**

CHAPLAINS do not fight, but they do get killed in battle. Only the Air Forces and the Infantry have suffered a higher proportion of casualties among their officers than the Army Chaplain Corps. Peak strength in World War II was 8,171 Chaplains and of this number 77 were killed in action, five met death in Japanese prison camps, 78 died from natural causes while on duty, 235 were wounded in action, and 37 were released from enemy prison camps.

The Chaplain's field of action depends, of course, upon the type of organization he is assigned to. The base hospital is the field of action for a chaplain serving with a medical regiment. A river where a pontoon bridge is being repaired under shellfire is the field of action for the chaplain of an engineer regiment. The area from which the batteries are firing is the artillery chaplain's place. The foxholes, jungles or swamp where the men of his unit are fighting, being wounded and killed, is the field of action for the chaplain of an Infantry organization. In short, the chaplain is where his men are.

The Chaplain Corps has been linked with our Army since the beginning of our Nation's history. It was not long after the first mustering of American Army Forces that the office of Chaplain became a regularly established position in its organization. The first blood of the American War for Independence was shed at Westminster, Vermont, on 13 March 1775. There followed in succession the battles of Concord and Lexington (19 April 1775), Ticonderoga (10 May 1775) and Bunker Hill (17 June 1775). In all of these engagements, clergymen joined their parishioners to be present with religious ministrations. Their services were formally recognized and honored and the office of Chaplain legally established when the Continental Congress on July 29, 1775, included a rate for chaplains in its schedule of pay for all services.

Four Army chaplains wrote their deeds in history when the troop transport SS *Dorchester* was torpedoed off Greenland. According to affidavits of the SS *Dorchester* survivors, fear of the icy water had made many aboard almost helpless, convinced as they were that such a plunge could bring only death. The chaplains calmed their fears, and are given credit for saving many men by persuading them to go overboard where there was a chance of rescue. Many of the survivors reported seeing the chaplains standing together on the SS *Dorchester's* forward deck, handing out life belts from a box. When the box was empty, the chaplains removed their own life jackets and gave them to other men, and in so doing, sacrificed their own lives. Two of the chaplains were Protestant; one was Roman Catholic; the fourth was Jewish. The ship was sinking by the bow when men in the water and in the lifeboats saw the chaplains link arms and raise their voices in prayer. They were still on the deck together, praying, when the stricken ship made her final plunge.

Now that hostilities have ceased, the occupational hazards of the Army have decreased. Army chaplains no longer need share with their men the emergencies of battle. Today the chaplain does his part in solving the problems of reconversion and the winning of the peace.

Qualifications (as stated in Army Regulations 605-30) for clergy applying for commissions as chaplains in the United States Army have been frequently modified to meet the demands of the National Emergency. At the present time, with the need for additional chaplains continuing, chaplain applicants must possess the following qualifications: (1) World War II service as Chaplain; (2) college graduate (from a college recognized by the War Department); (3) have had a seminary course in a religious seminary of recognized standing; (4) transcripts of college or seminary credits, either accompanying application or on file in the Office of the Chief of Chaplains; (5) current ecclesiastical indorsement from denominational agency recognized by the War Department; (6) active engagement in ministry as principal vocation in life in the same denomination as served in the Army if on inactive status.

The Chaplain Corps provides the Army chaplain with all equipment necessary for the completion of his mission. As every Army man knows, chaplains are provided with assistants, soldiers who strengthen the hands of the chaplain and help him in the work of his office.

The Chaplain Corps' objectives are essentially three in number: (1) to provide for the spiritual welfare of all troops by conducting or making arrangements for religious services; (2) to make men increasingly aware of the presence of God and the reality of His moral law, thus providing the breath of justice without which peace cannot live; (3) to contribute to the effectiveness of soldiers by strengthening within them a living faith which is the heart of excellent morale, and preparing them to render rich and sacrificial service to their country and their comrades both in war and in peace.

*Chief of Chaplains.

Relationship Between Officers and Enlisted Men

A GROUND SCHOOL LECTURE

*by Colonel Hamilton H. Howze**

MY subject is "The Relationship between Officers and Enlisted Men." It is a "hot" subject, since it is one which closely affects all of us, and since it has been the cause of much bitter controversy in the recent past.

If you are not genuinely interested in this subject, you are making a serious mistake. The accurate understanding of the proper attitude of officers toward their men, and of men toward their officers, is of vital importance to the Army. It is one of the fundamental ingredients of discipline, and discipline is a fundamental requirement of a military force.

Since this subject is inextricably mixed with the subject of leadership, discipline, rank, and military courtesy, I must therefore touch somewhat on those matters in the course of this talk. I advise you here, however, that it is not my purpose merely to justify the officer's privileged position, although I shall express some specific opinions on that issue, also.

Between us, I hope that we can clarify our minds on all these kindred matters and arrive at reasonable conclusions, at least to our own satisfaction. If we, as a group of officers, do arrive at sound conclusions, and are personally convinced of what is correct, we must accept certain educational obligations in regard to other officers and men who may serve under us. The need for such education (or such indoctrination) among the junior officers of the Army is widespread. Only if an officer has the courage of his own convictions as to his position, in respect to the men he commands, can he properly fulfill his function. A *lack* of conviction leads first to uneasiness, and then to indecision, laxness, and a failure of discipline.

The relationship of officers and men has been evolved, with many changes, through the national military experience. In our country, the problem arose at the very dawn of our national history. In the Revolutionary War, in the War of 1812, in Andrew Jackson's Cherokee War, in the Mexican and Civil Wars, numerous difficulties and problems existed, and not all were satisfactorily solved. I cannot find time to give you details, but certainly you remember stories of the thousands of desertions which threatened the success of our early campaigns, of the disgraceful abandonment of the battlefield (in 1812) by the militia charged with the defense of the City of Washington, of draft riots, of elected officers, and of other incidents indicating that a proper relationship and good discipline frequently did not exist.

Now let's get down to cases. What is the aim, or purpose, of developing among officers and their men a workable relationship?

The ideal relationship must satisfy one great requirement—it must serve to build an efficient Army, sufficiently efficient to fulfill its national function, i.e., to win wars. The aim is *not* to build happiness, per se, for the members of that Army.

Certain difficulties confront us in our effort to attain that ideal relationship. One is the inborn suspicion, natural to every American man, which makes him wary of any rules or regulations which interfere with what he considers his God-given right to do pretty much what he pleases. We in the United States have made a hero of the man in the street; it is that sympathy for the common man which is largely the basis of our democracy. During the war, the "forgotten man," as he came to be known during the depression years, enlisted in the Army, and in fact in many cases eventually became an officer in the Army. As long as he remained enlisted, he was set up by the American public as being incontrovertibly right in his relationship with what became known as the "brass." The public chose to put the enlisted man in the light of an underdog (and therefore the favorite) in a conflict which many civilians believed existed between the officers and the enlisted men in the Army.

Of course, the Officers' Corps itself can hardly lay claim to perfection. Part of the blame can be put, certainly, at the door of the Regular Army. I am a Regular Army officer. Officers are selected and maintained in the

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Regular Army exactly according to the rules made *for* that Army, by civilians. Sometimes, unfortunately, politics gets into the officer ranks of the Army. During the years which preceded the war, there were a certain number of grossly inefficient Regular officers—and some of them are still on duty—who could have been pointed out at will. Those officers were, in many cases, put up before boards to get them out of the Army, but through pressure, or because of an antiquated system of forced separation, their cases were dropped.

A second root of trouble lay in expansion. To fight World War II, the Army jumped in strength from 200,000 to 11,000,000 in a very short time. Figure for yourself the difficulties of even a civilian business—which is always held up to the Army as a comparatively efficient organization—in making such a terrific expansion. Remember, also, that war is not something which is normally practiced. A civilian firm in business gets daily practice in the consummation of that business, and perhaps continues that practice for 150 unbroken years, day by day. In war, practice is always in the nature of a "dry run," and the business part of the military art takes place only in a very relatively short space of time —fortunately, of course.

We have discussed the aim of a proper relationship: to build an efficient Army. I have indicated some facts which have been barriers to the full attainment of that proper relationship. I now want to delineate that relationship; I have tried to keep it simple:

First, there must be mutual respect.

Second, there must be disciplined loyalty, willing obedience, by the soldier.

Third, there must be a deep-rooted, well-developed sense of responsibility on the part of the officer.

I can't believe—or say—that this relationship prevailed everywhere during the war. There were many unforgivable abuses of authority, many cases of inconsiderate and improper use of the Army disciplinary system, which occurred. I'll run over one or two of them, very briefly.

The matter of "Off Limits" was a constant irritation to combat soldiers. All too often troops under my own command would take a town, only to be confronted a day or so later with "Off Limit" signs posted in every direction. The "Off Limit" sign is, in itself, a rude announcement, and very irritating to soldiers.

Often officers' clubs were inconsiderately located, and the use of certain buildings by officers exclusively had the result of imposing a hardship, by omission, on the enlisted men. In my own outfit, I eventually made it a rule that the officers' club was established only *after* facilities were made available to the men; it was a good rule.

Officers would abuse the use of available military transportation, and the enlisted men resented it.

The officers had a liquor ration—the enlisted men did not. I think it was a mistake, and it caused much resentment.

In many cases, the distribution of decorations and medals was poor, favoring officers beyond what it should.

There were many instances of poor leadership, in rear areas and in battle. Not pulling my punches, I will say that poor leadership was especially prevalent in the rear areas, where officers who were not undergoing any hardship, and had not the necessity for privilege that combat officers did, often abused their authority. Many of you know yourselves the arrangements in the rear areas—(I was in Italy)—whereby officers in the SOS would set themselves up in big villas and live off the fat of the land.

Finally, I mention rudeness and inconsiderateness. There was many an officer who was extremely rude—and without reason—to enlisted men. There was many an officer who was inconsiderate in his actions, and in his references to his men, putting himself insultingly separate from them. Mind you, I'm not saying that an officer should not, for proper cause, vigorously and pointedly upbraid a soldier, but I do contend that in his normal dealings habitual rudeness is inexcusable.

Partly because of these very real abuses, and partly because of a poor element inevitably found in an enormous body of men, there sprang up just after the war a bitter resentment against the officers of the Army (and the Navy). It was fashionable, in the Services and out, to berate the dreadful "caste system." It is my personal belief that this resentment was especially prevalent among troops that were not in combat units. Let's look into the case.

During the war, 980,000 officers held commissions. Of those, 637,000—that is, 65 out of 100—came from the ranks. The offer and the privilege to take advantage of the Officer Candidate School was extended, certainly, very broadly throughout the Army, and those that chose to take it got the chance. As I said before, it is my opinion that most complaints of the privilege of officers over enlisted men came from the rear areas, and those in most part are the ones that have been publicized. In some cases they were undoubtedly justified, but on the other hand I believe the majority of those individuals, in particular, had ample chances to get officers' commissions. In Italy we were told toward the last that if we wanted additional officers we had to produce them by battlefield promotions. None additional were coming from the United States because the barrel had been scraped: there was nothing left. As a result, we were almost begging men to accept commissions. The rear areas were combed for men who would take special training courses in schools which were set up, in an endeavor to get commissioned officers to take the places of those lost in the battle ranks. There were comparatively few takers. I think the fact that there *were* so few takers is a very good answer to the plaints, recently so evident. Any man of ability and courage could have had a commission, had he wanted it; the actual fact is

that the danger of the line was apparently sufficient to cause most rear area soldiers to turn down the chance of becoming line officers.

We have said that the ideal relationship between officers and men demands a disciplined loyalty on the part of the soldier. Can this be attained by the officer becoming a back-slapping pal of his men? Should an officer of the modern Army deal with his men as a Boy Scoutmaster deals with the Red Fox Patrol? I don't ask that question lightly: I truly believe that many young officers do indeed take the Scoutmaster's attitude. I am as fully convinced that that attitude is a dead wrong one.

The other day I attended a class of officers discussing the subject of Military Courtesy. There was considerable talk of how military courtesy is obtained in a group of enlisted men. To my considerable consternation, the class as a whole came to this conclusion: military courtesy in a unit should come through the example set by the officers. "By one officer showing respect to another officer, the men will come to respect that officer too." Certainly that was a well-meaning idea, and of course it has a modicum of merit—but that is what I mean by the Scoutmaster attitude. I don't like to be cynical, but of course my mind instantly conjured up the picture of all the officers whisking about being excessively polite to one another so the men would, too.

Well, how is military courtesy attained?

First, by indoctrination. Men must be told, in plain, certain, unabashed terms, what is expected of them, and why. Perhaps they should be told twice, or three times, why, but it is *not* necessary to explain *why* forever. Military courtesy must be *enforced*. It is a mistake for officers to feel that every order they give, or job they require, must alway be verbally justified. It can soon become a burdensome nuisance, and it also weakens the officer's position, if it is overdone.

Second, by reserve. It is extremely important that officers and enlisted men off duty be separated from one another; this reacts to the benefit of both officers and men. There is no question of the truth of the old, hackneyed phrase "Familiarity breeds contempt." The separation of officers and enlisted men in their social activities—not in their social status, but in their social activities—has been found to be a vital necessity in any Army. The Russian Army, at the beginning of the war, when the enemy was Finland, had almost erased the differences between officers and enlisted men. As Russia progressed in the war, against Finland and then against Germany, the differentiation was made greater. The necessities of battle demanded it. The Officer Corps was permitted to wear distinctive uniforms, was granted privileges, and the Red Army ended up much less "democratic" than our own!

Perhaps you read, in a magazine, an article by an officer who wrote that he had come out of the battle line in the company of his platoon sergeant. The two men, according to the article, were very fine fighting people. They called each other Tom and Joe. They drove back to a hotel at Florence, I believe it was, and there a sign said "Officers only." The officer was embarrassed, and he said, "Tom, I hate to do this but you can see what that sign says," and they were both very unhappy when they separated and the sergeant went to his own place, which may or may not have been adequate. The author (who was the officer, incidentally) takes the position that the two men, wedded by the danger of battle, should not be separated by a social distinction. My contention is that they *should* have separated at the hotel, although I will freely acknowledge that if the officer's hotel was luxurious while the enlisted accommodations were inadequately fixed up, a basic error in leadership occurred.

Pertinent questions are, "Why should an officer need help on his personal duties?" "Should an enlisted man ever dig a foxhole for an officer?" You remember the Doolittle Board, which met on this general subject, had a witness before it—an ex-sergeant—who said that there was no democracy in the Army and that it was patently necessary to revise the whole system. In the course of his testimony, the board asked him, "Should a general shine his own shoes?" and the sergeant flipped back the answer, "Why not?" That answer got a great deal of publicity. My feeling is that the general had other and more important things to do than shine his own shoes. On the surface, it is a difficult thing to justify, but we must reflect that the general's decisions and instructions will have powerful influence on the lives and fortunes of thousands of men, and it would therefore be wise to allow him all of his time to meditate on them. If the general had to take care of himself altogether—if he had to stand in line for his chow, if he had to put up his own tent, if he had to polish his shoes, if he had to take his turn daily in the latrine—he could not find the time to run his division or corps.

But let's consider again the junior combat officer.

No combat officer needs to be told or lectured on the intimacy which springs up between good officers and men in battle. That comradeship is a compliment to the officer and an asset to his leadership, but it need properly stop at a certain point. The "sir" due an officer should not be dropped, even in the most difficult situation, and believe me, it wasn't dropped in good units. The salute can be rendered in difficult circumstances, and frequently was. Even under enemy fire, and in bad weather, men can be made to shave, and to keep themselves and their surroundings clean, and they will fight the better for it.

It may shock you a little, but remember, too, that *fear* is a very compelling power in battle. I speak not of fear of the enemy, but fear of the consequences of bad action on the part of the soldier. Don't believe that that is necessarily an unhappy state of affairs, because it isn't. Actually, religion, Christianity, plays on fear very strongly, and every priest and every minister will acknowledge that that is the case. A few years ago, it

used to be quite habitual for a man to boast of himself by saying, "I am a God-fearing man." The force which makes Christians behave themselves, and live proper, moral lives, is very largely fear of the Almighty. In the same way, men in battle many, many times do what they do against a dangerous enemy because of fear of the consequences of doing otherwise. That is an important point and one which we, as professional soldiers, must thoroughly understand and frankly acknowledge.

How should we handle the noncommissioned officer? He is an essential cog in the military machine, and it is a truism that if the NCOs are good, the unit is good. The catch to that statement, of course, is that the NCOs will not be good under poor officers.

All too often our officers treat their NCOs only as high-paid privates. No attitude could be worse: the noncommissioned officer simply cannot and will not function in such an atmosphere. The NCO must be treated as a leader; remember his title—he is an officer, a noncommissioned officer. Demand of the NCO an efficient performance of his duty: hold him responsible for the training and the discipline of his men, but for Heaven's sake, give him opportunity to fulfill those responsibilities!

The noncom can only give you what he's got to give if you treat him properly. An officer's attitude toward an NCO should be polite and pleasant, and by his attitude the officer should plainly indicate that he respects the NCO's position, and values his opinion. Never should the noncommissioned officer be humiliated, for that emotion can destroy loyalty, and respect, and friendship, in less time than it takes to tell it. Especially should the officer be careful not to criticize an NCO before his men so strongly that he lessens the NCO's authority and stature. If the noncommissioned officers of your unit have their jobs put squarely up to them, if they are trusted and respected by you, they will rise to your assistance in every instance and in face of any difficulty, and you cannot fail to have a magnificent unit.

Finally, of course, the officer commands the respect of his men, and therefore receives their courtesy, if he is thoroughly worth it. He must not be rude and inconsiderate. By his neatness, bearing, demeanor and dignity, he must show his right to the title of officer and gentleman. By his actions—*not* his explanations—he must prove that he has the welfare of his unit at heart. By his leadership he must demonstrate that his judgment is to be trusted. By *enforcement,* he must require positive and unhesitating obedience to his orders. He cannot be a Scoutmaster. He must be—I cannot think of a better definition—an Army Officer. If you live up to that title, with all that it infers, you need apologize to no man.

In a combat unit, now, what are the fruits of this that we have defined as a proper relationship? If you add to it the ingredients of good training, the end product becomes esprit de corps. The first indication we have of esprit is the appearance of organizational pride. That pride will come only to a militarily efficient unit; it springs from the knowledge of every soldier in it that he belongs to a well-oiled, highly professional machine, capable of bringing down swift, efficient, and violent damage onto an enemy which opposes it. Esprit is hard to define, but easy to recognize: your men will show their pride by their appearance, their alertness, and their general satisfaction, and you will overhear complimentary or envious remarks by men of other units about your own. When and if this happens to a unit you command, your heart will swell with pride and happiness.

In spite of our earnest efforts towards orientation, it was my impression that most of the men in the Army—certainly those in my outfit—were not too well aware of what they were fighting for, as far as the broad view was concerned. I believe that a man fought very largely as a part of his unit, rather than as a citizen of the United States. I don't mean to say that he was oblivious to his national duty, but at the same time, it was a demonstrable fact that men, even individually, fought best for an efficient unit. We may assume that over-all national patriotism was the same everywhere, yet there was a tremendous difference in the way men behaved in one unit and in another. I contend that an objective is bravely assaulted more because of organizational pride and esprit (a large part of which is attributable to the quality of leadership within the unit) than because of the conviction that the national aims of the United States are correct and proper.

In closing, I want to speak of the responsibilities of an officer. You have heard the expression, "noblesse oblige." The privilege of command carries with it the responsibilities of command. An officer who properly and thoroughly discharges those responsibilities is *not* resented. I cannot here go into great detail, but generally, we may say that an officer's responsibilities include his obligations to see that his men are properly and impartially administered, fed, and clothed, in garrison and in the field; that his men are carefully and efficiently trained to enable them to best discharge their duties in combat at a minimum cost of life to themselves; and, finally, that his men are skilfully and bravely led in battle. The proper discharge of those duties demands of an officer a personal dignity and a disciplined behavior, which become corollary (and previously discussed) responsibilities.

Finally, we as officers must acknowledge that we must conscientiously, continuously, develop ourselves, professionally. This must be done by frequent study, and reading, and reflection. I tell you that many, many officers have lived for years in the Army without ever making the slightest endeavor to improve themselves physically or mentally. These are military vegetables, and there is no good in them. To develop oneself in the soldier's art requires not only an overweening interest in the science of tactics, troop administration and leadership, but also curiosity, imagination, and pride.

Red Army Discipline

by Lieutenant Colonel William R. Kintner

THE battle proven Red Army is a subject of growing interest to every military man. Its brief, dynamic history is full of lessons concerning weapons, technique and strategy. It is the evolution of Red Army discipline, however, which probably offers the most fruitful study to the American soldier. At this time, when the validity of many time-honored principles of discipline are being challenged, it might be well to examine the process by which the Red Army changed from a mass of revolutionary comrades to the most tightly disciplined Army on the face of the earth.

This story begins before the Communist revolution. One method employed by the Soviets to seize power from the Kerensky government was to spread dissatisfaction within the Army. The Soviets of Petrograd took a powerful step to dissolve army discipline when they issued the famous General Order No. 1. This unique order set up a system of military committees to govern the army, took the control of arms and equipment from out of the hands of officers, and abolished all outward symbols of discipline, including exchange of salutes and the standing at attention in the presence of superiors. Although the order accomplished its immediate purpose, its spirit long remained to plague its instigators in their later efforts to introduce necessary discipline into the new Red Army. Although the proponents of the scheme frankly recognized that advocating of self-government within the ranks was a Trojan Horse created to wrest power from the Provisional Government, many idealistic Bolsheviki jubilantly acclaimed these opportunistic measures as the foundation of a truly revolutionary and democratic army. It took these gentlemen many years to return to reality.

The Red Army was born early in 1918 a few months after the Soviet seizure of power in the October Revolution. In the beginning it was a chaotic organization. The official Soviet history comments on this period, "Discipline was built on shaky foundations; meetings and discussions of orders were of frequent occurrence." During its first three years of existence the Red Army was ceaselessly engaged in Civil War. Combat requirements gradually forced changes in disciplinary routine, in spite of intense opposition from more idealistic revolutionaries. The first few Red Army cadets, filled with revolutionary fervor, were disillusioned by their contacts with the more conventional type of discipline gradually reappearing at the fronts. One of them wrote, "You taught us to introduce among the Red Soldiers a conscious comradely discipline. Unfortunately, here people insist on something else." This something else was needed to keep the straggling lines of the Red Army actively in the field. Desertion rates in 1919 were phenomenally high—almost three million men, a number approximately equal to the total army strength during that year.

To meet these irregular conditions discipline was strengthened by the Code issued in 1919. The introduction to this Code stated that "despite completely comradely equality necessity has shown the need for strict military discipline." Severe discipline had to be maintained because some Red Army soldiers "did not understand the necessity of obedience to a single will." Subordinates were now told to execute "without hesitation" all orders except those directed against the Soviet Government. Increased power was given to command personnel to award summary punishment for discipline infractions. Complaints against particular punishments were not permitted as long as they were not made contrary to the spirit of the Red Army.

This code also gave commanders (officers were no longer legal in the Red Army) considerable powers of coercion. However, because of active communist political cells in every army formation, there is evidence to indicate that this code was more honored in the breach than in the observance. Nevertheless in itself it was a remarkable transformation from the Decree of December 1918 which asserted "that all power in each military unit belongs to the respective soldiers' committees." In spite of a new code, it was to prove no easy matter to restore satisfactory discipline among men who had previously eagerly participated in the creation of military anarchy. Consequently, there was no such thing as uniformly enforced discipline in the ranks of the Red Army during the Civil War. One Czarist General left these impressions of the then Red Army soldiers—"With unshorn hair, caps thrust on the back of the head . . . sentinels, at their posts, sit on stools or on steps of porches, with rifles between their knees, talking peacefully with the passer-by."

When the end came to civil fighting in 1921 the Red Army had a chance to review its experience and chart its future course. Concerning discipline, there was a

strong tendency to abandon the revolutionary theories which scorned the need of command, and maintained that military effort could be developed solely by personal authority and persuasion. The initial task of reorganization fell upon the capable shoulders of Commissar Frunze. Among other reforms he campaigned vigorously for better execution of orders, and for improvement in personal dress and appearance. Likewise, at the same time the Red Star reproved commanders who disregarded "their rights and obligations in matters of discipline."

Upon the death of Frunze in 1925 Voroshilov took over the reins of the Red Army. He continued to work along the lines of his predecessor in strengthening discipline. In analyzing the common flaws of many commanders he especially cited the fact that certain of them were too familiar with their men, which, he contended, led to a lack of respect and a loss of discipline. More and more it came to be recognized by responsible Red authorities that democratic principles had to be adjusted to the peculiarities of army life. In the twisting logic of Soviet propaganda it even became apparent that there was no real contradiction between revolutionary discipline and regulations which demanded smart appearance and bearing. Nor was fault found in the specified drill deemed necessary to achieve high standards in this respect.

As a further indication of the direction toward which the Red Army was turning, the Society for Promotion of Defense, in 1927 listed discipline as the first quality required of commanders. The socialist hope of easy, familiar relations between officers and men was gradually going by the board. At the same time stress was laid on the "class character of discipline" in the Red Army which supposedly differed as day and night from the discipline of the armies in capitalistic countries.

The Red Army man was becoming a regular soldier. He was subjected to a strict system of rewards and punishments like any other soldier. In addition he was held in line by an unrelenting stream of propaganda which exhorted him to give his all to the socialist fatherland. Furthermore, his discipline was firmly based on excellent morale, which in turn arose from the privileged position the Red Army occupied in Soviet society.

All during the thirties the Red Army was growing in size, in armament, and in the cohesive bonds of discipline. The most notable advance toward a professional military force was brought about by the Decree of 1935 which reestablished certain grade titles, granted greater differentiation in pay between ranks, and strengthened command authority. The effects of this decree were partially offset by the famous purge of 1937 and consequent liquidation of untold thousands of Red Army commanders. Immediately following the purge commanders of all echelons were restrained to act against flagrant infractions of discipline for fear of reprisals. There were instances of easy denunciation of unpopular commanders with a resultant dissipation of authority. A correspondent reported that there were units in which soldiers knew that they could violate regulations on duty with impunity. It was not uncommon to observe soldiers talking and laughing while at attention and in the presence of their commanders. In spite of this apparent military retrogression the rising tension in international relations made it more and more mandatory that the Red Army become a finished instrument of war.

It took the Finnish War in 1939 to mark the end of a cycle. Notwithstanding the steps already enumerated the Red Army was an amorphous mass compared to the tightly disciplined troops of Finland. During this bitter campaign entire Russian divisions were cut off and decimated. Only the brilliant leadership of Timoshenko and overwhelming mass enabled the Russians to salvage a costly victory. Timoshenko used the stimulus of this near disaster to accomplish drastic reforms, including introduction of the salute in June 1940. The Red Star stood squarely behind him in affirming categorically that "without discipline there is no army. The more numerous the army, the stronger must be the discipline in all cells of the army organism."

A few months later, in October, a new disciplinary code was promulgated. With but few modifications, prompted by the fierce demands of the Nazi struggle, it still guides the Red Army. The Red commander was granted new sweeping powers to back up his authority. Commanders were no longer responsible if they were forced to resort to arms to enforce obedience. As a matter of fact a commander was himself subject to court-martial if he failed "to exhibit firmness and decisiveness" or stopped "short of taking all possible measures to bring about compliance with his orders." The Russians did not go halfway at this time. They prided themselves on possessing the strictest discipline. They made it a point of principle to make the new Red Army disciplinary code more severe than those found in other armies. Insubordination must be punished unmercifully for "every case of softheartedness and liberalism, even the smallest indulgence with respect to violation of discipline, results in great harm." The commander's order now became the subordinate's law and all army personnel were required to "fulfill incontrovertibly" all military orders.

The old pleas for conscious discipline were discarded. Compulsion was recognized as an essential factor in military control. The last vestiges of the revolutionary influence in the structure of the Red Army were cut off by the Decree of July 1943, which established for the first time a distinctive Officers' Corps, and ended once and for all the Russian experiment in "free, voluntary, comradely discipline."

Even more significant, however, was the change last summer of the name of the Red Army to Soviet Army. Thus was severed the final sentimental attachment between the revolutionary cadres of 1917 and the professional Russian forces of 1947.

Foreign Weapons Exhibit At The Ground General School

*by Captain Frank C. Fyke**

THE Ground General School Center at Fort Riley, Kansas has a Foreign Weapons Exhibit which includes approximately 300 selected small arms of the world's armies. This collection includes the principal small arms that have been used in the past half century in virtually every army in the world.

The exhibit is a School instrument for instructing students and giving them a general orientation on military small arms. The Ground General School believes that every ground officer and man should have some knowledge of the various foreign weapons and at least a general recognition of those that were used by all of the nations' armies during the past war. The School does not predict that these same weapons, without modifications, will be used in future wars. However, their characteristics might be a tip-off on what can be expected of future designs in small arms of the particular country they represent. In addition to the characteristics as to capabilities and limitations, the students are oriented on the historical and political background of the individual weapons and groups of weapons. This enables the students to understand just how and why certain of the earlier weapons, directly and indirectly, influenced the designs of some of the later models. It is also noteworthy that characteristics peculiar to certain weapons can be attributed to their anticipated use in a particular type of terrain or climate.

The lack of adequate training of U.S. forces in foreign weapons was evidenced during the past war. Front-line soldiers were baffled by the high cyclic rate of fire and the speedy barrel change of the German MG 42. In spite of its many disadvantages, the psychological impression created by this weapon on our troops was difficult to counteract. Out of the early battles in the Pacific in 1942, came various rumors concerning the "Jap supermen and their superior individual weapons." The concave base plate of the Japanese Model 89 grenade discharger caused many of our soldiers to think it was made purposely to fit the outer thigh just above the knee. Rumor had it that every Jap soldier carried a "knee mortar" in addition to his rifle. Our men had neither seen nor heard of a mortar type weapon smaller than the US 60mm mortar. It was easy, therefore, for them to form the mistaken idea that the Model 89 had recoil so slight that it could be fired from the knee. Some of the soldiers who tried to fire it from the knee found themselves with broken thighs.

The Foreign Weapons Exhibit of The Ground General School Center occupies an entire building with a floor space of 6,000 square feet. The weapons are attractively displayed in the following groups: Machine Guns, Aircraft Machine Guns, Sub Machine Guns, Bolt Operated Rifles, Carbines, Mortars, and Pistols and Revolvers. Descriptive charts and placards are utilized throughout the exhibit, with weapons displayed on tables, boards, racks, and platforms. The exhibit is appealing to civilians and military personnel in general, as well as students. A tour of the display is enjoyed from a recreational standpoint in addition to the educational benefits to be derived.

In modern ground warfare, machine guns are the weapons which probably deserve the greatest emphasis. These are the weapons which have increased the firepower of modern armies to such a great extent. The exhibit of machine guns includes most of the popular "light" and "heavies" that have been standard issues in most armies since the turn of the century. These guns are displayed in eleven distinctive groups. In some instances they are grouped according to their family of origin, but, most of them are grouped according to their relationship in functioning (locking).

In describing a display such as that at The Ground General School Center, it is only possible to briefly discuss a few of the more interesting weapons in the exhibit.

Display number one has the principal machine guns of the Maxim Family. It is fitting that these should make up the first display because the Maxim was actu-

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ally the first true automatic machine gun to make an appearance. Although multiple shot weapons such as the Billinghurst Requa, Union Battery Gun, Mitrailleuse, Gatling and Gardner preceded the Maxim, such hand-operated weapons cannot be called true automatics. An American, Hiram Maxim, invented his gun in 1884. Five years later the Maxim gun was adopted by the British Army. However, the actual introduction of the machine gun as a decisive weapon in a major war occurred when the Russian Army used the Maxim machine guns against the Japanese in the Russo-Japanese War of 1904-1905. The Japanese were using their newly adopted French Hotchkiss. It might be said that the battlefields of this war were to become the proving grounds for machine guns. In the few years that followed, enthusiasm over reports of the value of a good machine gun in war caused other nations to adopt such weapons.

Among the Maxims in the display are the following: German 08 HMG, Russian 1910 HMG, German 08/15 LMG, Dutch 09/32 HMG, and the Czech Skoda Maxim LMG. The German Maxim 08 was used as the standard HMG of the German Army under the name of Spandau from 1908 to the end of World War I. The extremely heavy weight of this gun and its sled mount inspired German Ordnance to design the lighter bipod mounted 08/15 in 1915. This 30-pound weapon was well liked in the German Army. Although it was a second-line weapon during the past war, it held its own as a first-line light machine gun as late as the middle 30s.

Russia kept the Maxim as her standard HMG for many years. In fact it was still being used as late as the World War II.

Germany was forced to pay reparations to Czechoslovakia after World War I. Included in these reparations were Maxim tools and parts. By using these tools and parts the Czechs gave birth to the Skoda-Maxim LMG. It is ironical that a few years later when the Germans occupied Czechoslovakia, those parts in the form of Skoda-Maxims went back into German hands. Germany then used the weapon as an aircraft gun and also as a bipod mounted ground weapon in second-line units.

The Dutch 09/32 is an example of the many models of the Maxim gun which were adopted by more than a dozen different countries at one time or another.

All Maxim guns rely on the toggle joint for their locking. This action, which resembles that of the human knee, furnishes a very positive lock at the instant of firing. Maxim machine guns have always performed efficiently and have been well liked by the various armies using them.

The Schwarzlose heavy machine guns are shown in a separate display, since they are not functionally related to any other machine gun. The blow back principle gives the Schwarzlose an operation like the submachine guns and machine pistols. To insure that the bullet leaves the muzzle before the bolt starts its rearward motion, the Schwarzlose, having no lock, has a short barrel (20¾ inches), extremely heavy bolt assembly, and an unusually powerful recoil spring.

A German, Andrea Schwarzlose, patented his gun in about 1905. German Ordnance doubted the practicability of this gun, but Holland, Greece, and Rumania adopted it. Mannlicher of Austria improved the gun in 1912 and it became the standard HMG of the Austrian army. The Schwarzlose was used in World War I and also in World War II when the Germans employed it in North Africa.

Another distinctive operation found only in one family of machine guns is the hinged-bolt lock which the Danish Madsen light machine gun uses. A similar action can be found, however, in some non-automatic arms such as the American Spencer shotgun. In the Madsen LMG, designed by the Danish engineer Shouboe in 1890, is found a bolt hinged at the rear so that its head moves up and down when the weapon operates instead of the bolt moving back and forth as in other weapons. It is noteworthy that this weapon was the first light machine gun to be designed. The Madsen has been used widely among European and South American countries, and during World War II, it was still being used by Holland, China, Chile, and other South American countries.

The group of automatic weapons relying upon the camslot and stud lock includes the Lewis gun, Chauchat, Mendoza, Johnson, and Fallschirmjaeger-Gewehr

The family of Maxim machine guns is shown in the foreground. A display of submachine guns is visible at the rear left of the above picture.

42 and 42/44. This system of locking consists of a round bolt which has a slanting slot cut in it lengthwise, and a stud working in the slot which causes the bolt or bolt head to rotate partially and attain its locking by having bolt lugs seat in recesses in the receiver or rear of barrel. In about 1908, Colonel Lewis of the U. S. Coast Artillery invented the first machine gun using this system of locking. His gun has been used by the U. S. Army and Navy, the British Army, and the Japanese Army. The 1915 model was the standard British LMG during World War I.

The newest automatics in this group are the Johnson LMG and the German Fallschirmjaeger-Gewehr 42/44. The Johnson LMG was introduced in 1941 by Captain M. M. Johnson of the U. S. Marine Corps Reserve, and was used by the Marine Corps and Netherlands Forces. This 14.5-pound (with bipod) weapon was improved in 1944, while its light weight was increased to 15.5 pounds. The German Fallschirmjaeger-Gewehr 42 and 42/44 are automatic rifles that were used by German parachutists. These two weapons, though gas operated, have much in common with the short recoil operated Johnson LMG. In addition to having the same type of locking (rotating bolt), both are lightweight, automatic shoulder pieces, which can be used as light machine guns or as rifles. These weapons fire from the open bolt position when firing full automatic. This, of course, is desirable in an automatic which should emphasize fast and smooth operation. By setting the change lever of either of the weapons on the semiautomatic position, they fire with the bolt in the closed position. This lends to accuracy which is the prerequisite in rifle firing. The Johnson has many other good qualities which are too numerous to mention here.

Captain Fyke, author of this article, shows General Jacob L. Devers, Commanding General of the Army Ground Forces, the Foreign Weapons Exhibit at Fort Riley, Kansas. Captain Fyke is curator of the exhibit.

An invention by Alexeyevitch Degtyarov represented the first machine gun to evolve out of a series of Russian small arms developed in the 1920s. The first models of this MG were unsuccessful. They were later improved to the extent that the model 1939 is one of the simplest machine guns available today. This pincher lock weapon, which is a variation of the flap-lock system, employs only four working parts inside its receiver. Any soldier can thoroughly understand the functioning of this simple, gas-operated weapon after only a few minutes of study. The simplicity found in the standard light and heavy MG of the Russian Army does not impair the reliability of the weapon when in action.

Other MG's displayed which have locking means remotely related to the above method are the French Hotchkiss, Japanese Hotchkiss Model 92, Japanese Nambu LMG, and the BAR, both U. S. and Polish.

One of the world's best LMGs is the Czech ZB30. It is displayed with other MGs which rely upon the prop-bolt lock. This excellent little weapon is the invention of Holek, a worker in the Czech small-arms works. It became the standard Czech LMG and was also purchased by Britain. In the Enfield factory, British experts improved upon this already good LMG, and started producing these improved weapons under the name of Bren. In the last war, Bren light machine guns were highly efficient in all parts of the world where British soldiers fought. The exhibit displays the Mark I and Mark II.

One display of the exhibit shows the principal machine guns in the German line of development from the end of World War I to the end of World War II. This is one of the most interesting chapters in Machine guns.

In 1919, the Germans were successful in scaling down the Austrian heavy machine gun, Dreyse MG 13. The result was the Dreyse MG 13 (light) which was a 23-pound, air-cooled, bipod-mounted LMG with a shoulder stock. It was issued to the German Army late in 1918. Then came the war's end and the Versailles Treaty which described in detail the limitations to which any future German machine guns would adhere. The treaty specified that in the future, Germany would neither use nor manufacture a machine gun weighing more than 30 pounds. It could be neither tripod mounted nor water cooled. Apparently at that time, it was believed that any gun made to these specifications would be so inferior that Germany wouldn't dare attempt to wage another war. In connection with water cooling, it was thought that only water could provide an automatic weapon sufficient cooling to per-

mit sustained fire. Also, it could not have a feed capacity for more than 50 rounds. With these specifications set forth, the Dreyse MG 13 (Light) became the standard LMG of the German postwar Army of 100,000 men.

The German Rhein-Metal works bought the Swiss Solothurn factories and out of these factories came good light machine guns including the MG 13, MG 15, and finally the MG 34, as the future standard LMG. At first the MG 34 was entirely according to the provisions of the treaty. Shortly after the middle 30s, Germany became quite bold and modified the MG 34 with added features which were direct violations of the provisions of the treaty. These modifications provided a metal belt feed with unlimited capacity to replace the 50-round drum, and a 42-pound multi-purpose tripod mount. The gun retained its bipod mount, however, to be used when tactical requirements dictated. The MG 34 was an excellent machine gun weighing only 26½ pounds, made to fire at a cyclic rate of 800 to 900 rounds per minute, and equipped with a quick barrel change facility. It was well liked and was the standard MG during the War until late 1942.

With the increased losses that Germany sustained in the field and in her bomb-torn industries, it became necessary for her to design a new MG which could be largely stamped out and would use a minimum of large forgings requiring extensive machining. Out of this necessity the MG 42 was born. To minimize confusion that might be caused among troops in the field by changing from one model gun to another, stocks, grips, mounts, and belts of the MG 42 were made identical to those of the MG 34. The new gun did, however, have some new features relative to its performance. The cyclic rate of fire was increased to the insanely high rate of 1,200 to 1,500 rounds per minute, provision for faster barrel change was provided, and it was made to fire full automatic only. This weapon was given the extremely high cyclic rate of fire for the psychological effect it would have on enemy troops and to increase its effectiveness as an antiaircraft gun. By carrying three spare barrels and having the quick barrel change facility, sustained fire was possible without having water cooling.

The display of aircraft machine guns shows many such guns of various countries. Perhaps, one of the most interesting among these is the Russian Shkas. This weapon employs a circular feed and very intricate parts to insure smooth operation at the high cyclic rate of 1,500 to 2,000 rounds per minute. Moving parts and barrel are chrome plated.

The principal submachine guns and machine pistols of the various armies can be seen in the submachine gun display. This assortment includes virtually all military weapons of this type from the very first one to be designed, through the modern German Schmeisser MP 40 and the US M3. The extremely capable German arms designer, Theodore Bergmann, introduced the first weapon of this type in 1918. It had the following characteristics which have marked all of its followers in the field of submachine guns: fired pistol ammunition, blow-back operation, short barrel, and relatively heavy bolt.

In the SMG display, we find the name Pietro Beretta, the one good name in Italian Ordnance. His is one of the world's best performing submachine guns. Its good compensator permits this weapon to fire in long bursts with little tendency for the muzzle to rise. Moreover, it is accurate at ranges greater than most weapons of this type are usually fired. The 9mm Luger Parabellum round is used in the Beretta. Attention should be called to the simplicity found in the Russian Fedèrou. To field strip this weapon the soldier is required to make only one move of the right thumb and one move of the index finger; the cover latch on top of the receiver is pushed forward to allow the stock to break down from barrel and receiver cover, then the one-piece bolt assembly with drive spring and guide rod are removed by pulling the bolt handle to the rear and up. This weapon fires a 7.63mm (.30 cal.) cartridge. When discussing the different good submachine guns, it should be remembered that the big soft .45 slug fired by the U.S. SMGs is much more effective upon its short-range target than any of the others, most of which are 9mm.

The unique German weapon that fires around a corner can be found in the Carbine display. It is the Machine Karabiner 42/44, and it is of the standard German small-arms caliber, 7.92mm. Its bullet, however, is stubby. This fact explains how it was possible for a 30-degree curved barrel to be even partially successful when attached to the standard straight barrel. The soldier could hit his target without exposing himself from the protection of a tank or the corner of a building, by using a prismatic sight provided for the weapon. The life of the rifled curved barrel attachment was about 150 rounds.

In the display of 54 bolt-operated rifles the German Volksturm-Gewehr can be seen. This little weapon which made its appearance shortly before the German surrender, clearly defines what a defeated nation was forced to produce. One look at the weapon tells a story of bomb plastered industries and the lack of materials, time and skilled workmen. This weapon is probably the crudest piece ever issued a modern army. Its stock is made of the poorest type wood while the receiver and barrel were very roughly cast. The movement of the bolt is quite audible, giving a rough scraping sound similar to the sound emitted by rubbing two rough bricks together. This weapon certainly does not typify the excellent weapons that usually came out of German arsenals.

One has to make a tour of the Foreign Weapons Exhibit to fully appreciate its educational potentialities. The many weapons in the display of pistols, mortar, antitank weapons and semiautomatic rifles are equally interesting as the ones discussed in this article.

Ground School Demonstration On Air-Ground Cooperation

*by Major D. H. Cowles**

SUCCESS in battle can be assured only when there is complete cooperation of all arms."—This dictum is demonstrated forcibly to the students of The Ground General School at Fort Riley, Kansas, in a joint air-ground operation, an attack of associated arms against an incompletely prepared defensive position. The students from a centrally located observation post witness all phases of the attack as it rapidly develops before them.

A mechanized cavalry reconnaissance troop, appropriately reinforced by a platoon each of light tanks, armored riflemen, and howitzers, moves into view 4000 yards south of the student observation post. The troop, with three platoons committed over a 7000-yard front, is screening the advance of a regimental combat team. As the leading platoon on the center axis approaches the Observation Post, the students are given an excellent opportunity to observe the proper employment of the point team.

When the leading one-quarter-ton truck reaches a position 100 yards from the students, it is first seen by the enemy and draws heavy fire from a camouflaged antitank gun, forcing the crew to hit the ground and crawl hurriedly to cover.

The point immediately forms a base of fire and is soon augmented by the balance of the platoon. Armored car commanders select primary and alternate firing positions. The one-quarter-ton truck crews locate firing positions and dismount their machine guns to provide more stable and accurate firing positions from adequate cover.

The troop commander, upon hearing the heavy volume of fire up ahead, hurries forward to investigate. En route, he orders the liaison aircraft, which has been assisting a flank platoon, to move to the critical point.

By the time that the troop commander reaches the forward positions, the platoon leader has coordinated his base of fire and committed his rifle section as flank security. (Each cavalry platoon in the proposed Tables of Organization has two scout squads and one rifle section.) Preliminary estimates by the platoon leader indicate that a sizable enemy force of infantry supported by antitank guns is dug in along a ridge line 1000 yards to the north.

Detailed reconnaissance, greatly facilitated and expedited by the employment of liaison air, reveals that the enemy holds the ridge line with perhaps 100 infantry, at least two 75mm antitank guns, and a few medium tanks. The liaison plane also locates unidentified enemy activity in a wooded draw 700 yards northwest of the ridge line. Ground and air reconnaissance together determine that the terrain on the east flank is rough and cut by a deep ditch; whereas, on the west flank a shallow draw offers a possible avenue of approach for ground troops to within 500 yards of the enemy positions.

Reconnaissance reports lead the troop commander to the obvious conclusion that he needs assistance to crack the enemy resistance. From the Regimental Combat Team he requests, and receives approval for, the support of fighter-bombers.

(As a result of previous high-level planning, fighter-bombers of the Ninth Air Force are on air alert in direct support of ground troops in this area.)

Fifteen minutes later, the advance guard commander for the main body arrives at the Cavalry troop Command Car with the Tactical Air Central Party attached to his force.

From an observation post the advance guard commander, air controller, and troop commander plan the attack. They decide that the tank and rifle platoons will make a carefully coordinated assault on the objective from the west under cover of an air strike. The cavalry and howitzer platoons are to support the assault from their present positions.

As the tank and rifle platoons begin to deploy, the P-51 fighter-bombers hit the target. Four planes, armed with two 250-pound general purpose bombs each, soften up the objective and are followed swiftly by four more planes each armed with six 5-inch high-velocity rockets. The eight planes in turn then make a final pass, strafing targets of opportunity. Before the air strike is completed, the tank and rifle platoons have reached their attack positions some 500 yards to the west of the objective. As the last plane strafes, the troop commander launches the ground assault by radio command. Followed by the armored rifle platoon at 100 yards, the

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tanks sweep on to the objective with all weapons firing. On the near edge of the ridge the personnel carriers halt, and the riflemen pour out to cover the tanks, mop up, and consolidate the objective.

While the tank and rifle platoons reorganize, the fighter-bombers provide air cover, prepared to attack enemy reserves or enemy efforts to displace to the rear. Ground and air reconnaissance immediately push forward in pursuit.

The students are moved to the demonstration area along the axis of advance of the regimental combat team. The troops employed in the problem were lined up for inspection in their respective tactical formations along the route. Where elements of the Regimental Combat Team were simulated, flags marked the locations of separate units comprising the RCT. Thus, the students were able to visualize clearly various time-space aspects of the problem before it commenced.

From the student observation post, which was located 1000 yards from the objective in accordance with safety regulations, the approach march of the ground troops, their deployment, the assault of both air and ground elements, the reorganization following the assault, and the pursuit were easily observed.

Student briefing prior to the commencement of the problem was minimized. The tactical situation and the safety measures employed were explained, and the capabilities and limitations of P-51 aircraft, aircraft weapons, and ammunition were reviewed briefly. In order that the students might appreciate more fully the problems of planning, coordination, and execution of such an attack, pertinent radio transmissions of all tactical units were amplified. The students thus heard, as well as observed, first enemy contact, orders of the platoon leaders and troop commander, the direction of the air strike, the ground assault, and liaison air reconnaissance. This method of "reading" the students into the demonstration proved to be most effective.

Because live ammunition was used, the problem required a high degree of cooperation and coordination. The amount of rehearsal time necessary to achieve the desired standard was determined directly by the state of training of the demonstration troops. Six hours of rehearsal for ground troops and four hours of joint air-ground rehearsal proved to be adequate.

To control the problem, an elaborate communications system was devised. Radio was the basic means of communications for both tactical and administrative control.

To supplement radio communications for emergency purposes, flares, wires, and panels were ready for instant use. Each safety officer with the separate firing units was equipped with a ground signal projector and colored flares. By this means the firing could be stopped, or ordered to commence, as the situation required. The howitzer platoon and the mortar platoon (the troop employed its three 81mm mortars in battery) operated a joint observation post. A single telephone wire was laid from the OP to the mortar position and thence to the howitzer firing position. An open circuit telephone net was maintained by these elements; in the event of radio failure these units were able to control the firing of their batteries with no difficulty. A set of air-ground liaison panels (AP30D) was held at problem control headquarters in the event of radio communications failure with either tactical or liaison air. Panels also were used to mark the direction of flight for tactical air and the emergency drop area.

With the exception of dismounted riflemen and bow caliber .30 machine guns in the light tanks, all units fired live ammunition. Riflemen, least subject of all elements in the attack to immediate control, fired blanks. This substitution was not discernible to the students. The bow guns of the light tanks fired blank ammunition to minimize the danger to dismounted riflemen, who might inadvertently get in the field of fire of these guns and still not be visible to the bow gunners, who were "buttoned up."

The enemy was represented by silhouette targets (type F) and by obsolete tank hulls. Each tank hull was equipped with twenty pounds of waste wool saturated in salvage crankcase oil and gasoline. Preparations were made to insure that the tank hulls could be electrically set on fire should air or ground hits not ignite the inflammable mixture.

Thirty 2-pound charges of TNT were spotted throughout the area occupied by the base of fire, mortars, and howitzers. These were staked with white flags as a warning to ground troops. They were fired electrically from the control OP to represent enemy artillery fire.

The problem was controlled from the student observation post by an instructor who, by virtue of the communications setup, was in contact with each element of the tactical force at all times. During the execution of the problem, the instructor's role was entirely supervisory. The problem was executed by troop officers who called upon the instructor only for decisions affecting safety.

The elaborate precautions taken to make the execution of this problem safe were in no way visible to the spectators. To all appearances the tactical force seemed unfamiliar with the terrain, free from instructor interference, without additional communications, and unrestricted by exaggerated safety zones. The fact that ground troops did not approach closer than 1000 yards to the enemy objective until after the air strike (in compliance with safety regulations) was the only artificiality injected into the exercise, and this, because of the general over-all activities of the units, was not emphasized. This tactical air-ground problem was presented after the students had completed their courses of study in both weapons and tactics. It represented a summation of all the previous instruction into one tactical firing problem paralleling closely actual battlefield conditions.

"Operation Lewisite" Destroys Jap Gases And Chemical Munitions

*by Major W. E. Williamson**

OKUNOSHIMA, an Inland Sea island about one mile southeast of the port of Tadanoumi, Honshu, Japan, had stored on it until recently some 20,000 tons of chemical warfare gases and munitions. Had an American plane dropped a bomb on this arsenal of poison during the war it could have affected as many as 2,000,000 Japanese.

It took the Japanese 10 years to produce and store the poison gases and chemical munitions on this small island, which is in the British Commonwealth Occupation Zone.

The task of supervising the disposal of these 20,000 tons of chemicals, which the Japanese estimated would take five years, was handed me on May 8, 1946, when I was detailed to the British Occupation Forces Headquarters as technical supervisor of "Operation Lewisite." The job was completed in six months by some 900 Japanese laborers.

Age of the steel storage housing Arsenicals and Vesicants in most cases exceeded 10 years. Corrosion and deterioration had progressed to such an extent that even mild earthborn shocks developed shell leaks. The entire installation including the island soil was thus well saturated with arsenic and vesicants in various stages of decomposition.

Being mountainous, the island necessitated construction of producing plants and storage along the narrow coastal shelf, which prevailed for approximately one-and-one-half miles on the western shore. This area, about 100 acres in size, one-fourth of the island surface, contained the most dangerous concentration of vesicants and explosives the writer had ever encountered in crowded storage. One ton each of Fulminate of Mercury and Silver Azide located a matter of yards from 5,000 tons of bulk stored vesicants left me, when I first saw it, with the impression that a New Guinea foxhole was like heaven in comparison.

The island being seabound without ship loading facilities, it was deemed advisable to institute disposal by beach and lighter loading. For this purpose, two decommissioned U. S. Navy LSTs and one 2,000-ton Jap freighter were obtained.

Under my direction, the Japanese Government was ordered on May 28, 1946, to proceed with disposal operations. Because of attendant dangers, only Japanese personnel was permitted within the operating danger zone. I was the only Allied member present.

The Japanese Government retained on contract The Teikoku Rayon Company, a Japanese Chemical firm, to accomplish the actual disposal work. This contractor employed approximately 900 men for the operation, 40 per cent of whom were former Jap Army and Navy personnel with chemical training.

From the Japanese Contractor's personnel, a disposal operations organization was devised which included engineering and administrative staffs; sections to accomplish construction, transport, medical and supply functions; and a guard and security unit. Internal guard was performed by 40 ex-Japanese soldiers under the command of a former Japanese staff sergeant. External security patrols and police functions were performed by Japanese civilian police under the command of the Chief of Police of Tadanoumi, Honshu.

No instance of sabotage occurred during the entire operation. The only crime was two cases of petty thievery.

Rehabilitation of plant facilities, island hospital facilities and beachhead construction was begun on June 4, 1946. Disposal was planned in three phases: Removal of sinkable chemical munitions with early emphasis on the vesicants, disposal of non-sinkable

Beachhead vacuum transfer station boosting Lewisite gas to an LST deck.

*Chemical Warfare Officer of the 1st Cavalry Division.

chemical munitions, disposal of explosives and decontamination of premises.

Insofar as labor and available transport would permit, these phases of disposal were planned to run concurrently, subject, of course, to safety procedure dictated by local storage conditions.

Warehouse inventories and controlled requisition procedures were instituted to conserve protective and decontamination equipment for use in the most dangerous phases of the operations. Japanese protective equipment and decontamination agents were extremely limited. Only by careful rationing and priority use, could these materials be stretched to provide for those portions of the operation making their use mandatory. Hot salt water bathing pools and salt water soap were provided as the principal means of individual decontamination.

The shortage of critical chemical supplies dictated to a large extent disposal plans. Maximum use was made of facilities for sinking at sea, and destruction by burning was emphasized as the alternate method of disposal. Chemical neutralization was considered a last resort, and took place when other means of disposal could not be devised. Sink at sea, burn, bury and neutralize were the methods of approach to all disposal problems.

Bulk storage vesicants presented the most difficult disposal problem. Arc welded pipeline systems were constructed to transport under vacuum, all vesicants from storage to LSTs beached and prepared to receive same in ship's fuel, ballast, and water tanks. This system consisted of 15 miles of pipeline, 34 high pressure steel vessels and 13 electrically powered vacuum pump stations. Lifted by vacuum from storage to LST main deck receivers, vesicants were then dropped by gravity into specially prepared ship's tanks.

Cargo loading of chemical packaged munitions to LSTs took place by truck over specially constructed beachhead bridges into ship's hold. The 2,000-ton Jap freighter was loaded offshore with 50-ton wooden Japanese barges.

During late July, the first typhoon of the season struck the area while vesicant loading by pipeline was in progress. Wind velocities of 70 miles per hour, attained during the night of July 29, broke the LST mooring anchors loose, and both LSTs were driven aground broadside on the beach. Vesicant loading lines were ruptured, and the entire beachhead was contaminated with a Lewisite-Mustard gas mixture. Ninety workmen and myself required first-aid treatment at the scene of activities that night.

One LST suffered bottom plate tears from grounding and required cementing and 72 hours of pumping to refloat her. Japanese tugs were used to refloat grounded LSTs, the beachhead was decontaminated with fuel oil torches, shore loading facilities were repaired, and loading was resumed the night of August 1, 1946.

This typhoon was the only near catastrophy during the operation. Completion of the project in late November proved fortunate because the area suffered a major earthquake in December of sufficient intensity to rupture steel storage housing vesicants.

Burial of chemicals took place in existing island tunnels and burning on various island beaches during the low tide periods.

LSTs were towed to sea for sinking in 3,000 fathoms of water by scuttling with explosive charges, after tow release. The Japanese freighter's cargo was discharged "over the side" in the same depth of water at sea.

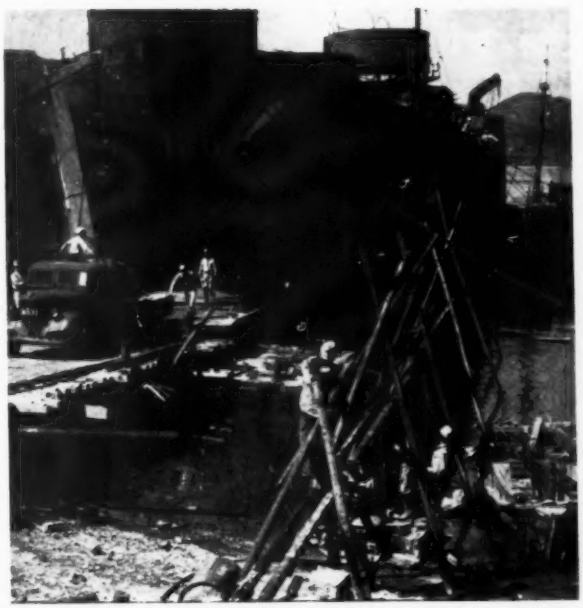
After vesicant removal had progressed sufficiently to minimize the danger of rupturing large storage by sudden shock, explosives were removed for burning and "sliming" into the sea. Explosives disposal was followed by burial of non-sinkable toxic smoke mixtures which could not be destroyed by fire because of arsenical content.

The Japanese operated island hospital successfully treated every gas casualty. Only 18 persons out of 900 required treatment for chemical pneumonia. Skin burns were not infrequent, but total absenteeism from all causes including hospitalization averaged less than one per cent of the total employed. "Operation Lewisite" was completed late in November, 1946, without a single or permanent disability.

A Japanese athletic festival in honor of the successful completion of their dangerous task was held on the final day of "Operation Lewisite."

The former Japanese Army Arsenal Commander, who cooperated fully in the disposal work, said at the festival, "We have destroyed in six short months that which we produced through 10 long, hard years. May there now be peace, food and joy for you all."

Beachhead on Okunoshima showing cargo loading of poison gases in progress. Japanese workmen shown building a pipeline for vacuum transfer of vesicant storage.



An Epic Of Brittany*

by Brigadier General R. W. Grow

IN the bright early morning sunshine of August 8, 1944, a quarter ton draped with a white sheet and flying a white flag sped south through the village of Gouesnou to the high ground overlooking the blue estuary and the city of Brest. The German outpost stopped the truck, blindfolded the occupants and drove it to German headquarters in the city. Here Lieutenant Colonel Ernest Mitchell, Division G-2, with his interpreter presented the demand for the surrender of Brest:

HEADQUARTERS 6TH ARMORED DIVISION
Office of the Commanding General
APO 256, U S Army
8 August 1944

MEMORANDUM:
TO : Officer Commanding German Forces in Brest

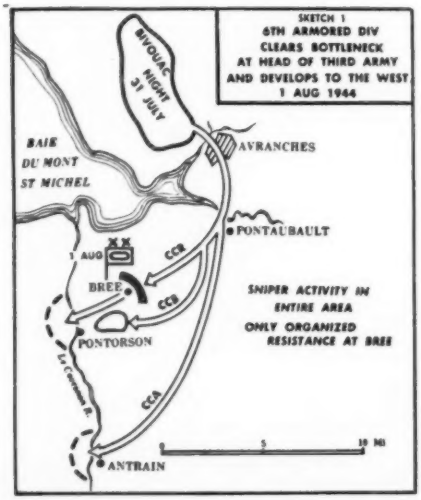
1. The United States Army, Naval and Air Force troops are in position to destroy the garrison of Brest.

2. This memorandum constitutes an opportunity for you to surrender in the face of these overwhelming forces to representatives of the United States Government and avoid the unnecessary sacrifice of lives.

3. I shall be very glad to receive your formal surrender and make the detailed arrangements any time prior to 1500 this date. The officer who brings this memorandum will be glad to guide you and necessary members of your staff, not exceeding six to my headquarters.

R. W. GROW
Major General, USA
Commanding

*Military Review.



Unfortunately for us the command of Brest had passed on the previous day to General Ramcke of the German 2d Paratroop Division who had slipped in from the south while we approached from the north. He politely but firmly refused, and Colonel Mitchell was escorted to the outpost and released. The tired troops prepared to attack.

Just a week before, Tuesday the first of August, the long thin column had pushed its way through the debris of the Avranches bottleneck and "turned the corner" toward the west. The 4th Armored had captured Avranches, we had taken Granville and the coast line to the south and southeast. The 79th, 83d and other divisions were closing in. All had to form single column from Avranches to Pontaubault. During the evening of July 31, we had sent our reserve through to hold the bridgehead at Pontaubault, relieving part of the 4th Armored. At dark that Monday evening no plan for an advance beyond the bridgehead had reached the division. German air was active but it was the rubble-strewn road that slowed the Reserve Combat Command (CCR) not the bombs.

Third Army became operational at midnight and by 4 a.m. on August 1, we realized what that meant. Corps orders were simple: Not to stop at the Pontaubault bridgehead, push west up the center line of the peninsula in two or more columns, by-pass determined resistance, capture Brest. The Corps Commander's visit to the Division CP during the morning was the last we saw of him until Corps headquarters reached Lesneven, near Brest, eighteen days later. The MPs of the 6th Armored Division took over control of the bottleneck road and every bulldozer we could locate worked on the wreckage while all that day and through the night the steel column pushed on, the trains clearing by daylight. The Reserve Command that was to form a bridgehead at Pontaubault continued in the lead with a new mission of a bridgehead at Pontorson. This command bumped into real trouble at Bree where the well camouflaged enemy let the advance guard through, then opened surprise fire on the leading artillery battery. Three of our SP guns were knocked out by accurate 88mm fire before the column could deploy. In a three-hour battle the strong point was wiped out and a bridgehead secured at Pontorson with a loss to us of seventy casualties while the enemy lost an 88, three batteries of horse-drawn artillery and some ninety prisoners.

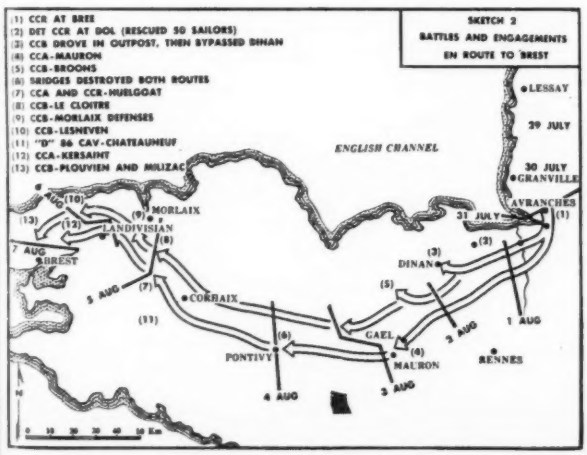
In the meantime the cavalry reconnaissance squadron

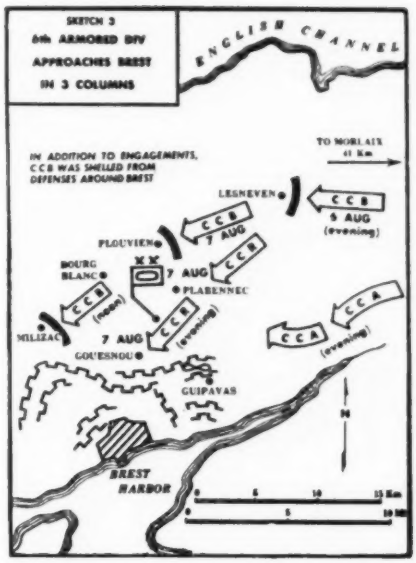
following CCR through Avranches, deployed to both flanks of the main road and paralleled the advance. Combat Command "A" (CCA) next in column, passed through Pontaubault in midafternoon and took the south route, paralleling that of CCR. The hedges were full of snipers who proved more of a nuisance than a menace. Many were killed and some captured but seldom was movement held up. After a week of action, snipers had become an old story, the men made short shrift of them.

Combat Command A made an uncontested crossing of Le Couesnon River south of Pontorson so that by midnight we had two bridgeheads controlling two good routes west.

Combat Command B (CCB), next in column, was to be the right column in the advance. Passing through Avranches early in the evening it advanced by a center route with the division artillery and bivouacked shortly after midnight east of Pontorson, prepared to pass through CCR at daylight.

The Division CP set up in wheatfields near Bree where we had a grandstand seat for the great "fireworks" display at Avranches. All night the enemy fighter bombers strafed and bombed the bottleneck. Our divisional antiaircraft artillery accounted for six enemy planes and together with other friendly ack-ack rendered the balance ineffective. Our trains suffered no losses other than shattered nerves, and sunrise found the entire division clear and "in the open" with no division boundaries to worry about, no definite enemy information, in fact nothing but a map of Brittany and the knowledge that resistance was where you found it. Here was as wide-open a field for exploitation as was ever presented to one division operating alone, with only one string attached, "capture Brest." We thought the 79th Division would be right behind us, then we heard it was to be the 83d, but finally on August 4, the Army Commander said we would have no supporting troops. Task Force "A," working along the north coast, would get up as soon as possible. (This force actually reached Lesneven August 9, but was prevented by other





missions from approaching closer to Brest.) Our left (south) flank would be secured for a portion of the way by the 4th Armored Division, which followed us, as soon as it could come up. However our later movements were so rapid that actually during the entire operation and until arrival of VIII Corps on August 18, we had nothing on our flanks but Germans and no supporting troops within a day's motor march after Wednesday, August 2.

On this day, a new world seemed to open up to the division. We had elbow room, we could stretch. It began to dawn on us that we actually owned *all* roads in Brittany, that the constriction of two to four divisions on a single road was over. The cavalry spread far and wide. The columns sped, hit, bounced, detoured and were off again.

The French caught the spirit of it. On Wednesday they rather timidly waved, by Thursday evening groups of FFI were on the street with weapons as soon as we appeared, by Friday night, on the long night march, armed FFI road guides were posted ahead of us, and information was actually coming in from the front. By Saturday the country was rising in arms, crudely organized but willing and enthusiastic, particularly eager to accept the German prisoners that were too numerous for us to manage. It was amazing to see and feel a whole population rising to the surface on the appearance of the dirt-begrimed American soldiers.

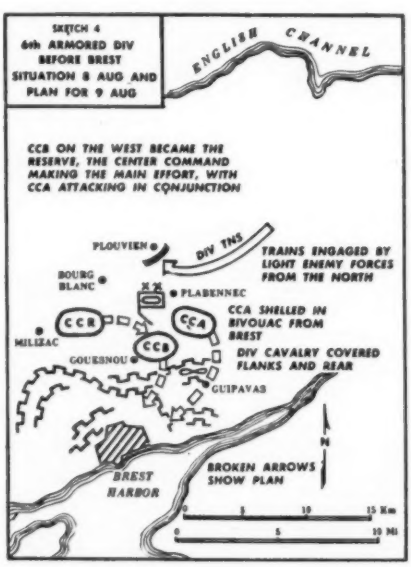
Most of the German inland garrisons "retired" as fast as they could to the seacoast fortresses. But surprise and speed overtook them and there were daily fights by the cavalry and both columns, as shown on the sketch, and attested by the figures. On August 2, we had thirty-four casualties, captured 150 and destroyed six aircraft guns and an 88. On August 3, we had twenty-one casualties, captured 318, destroyed seven guns and two planes. On the 4th and 5th we lost about 100 men but

destroyed seven guns and inflicted double casualties. On the 6th we lost forty-four men, killed and captured over 100 and destroyed a German armored car, five guns, and three "beetle tanks." On the 7th our losses were again over forty while we destroyed a big antiaircraft warning system outside of Brest, knocked out three guns and inflicted many enemy casualties. This was all preparatory to the major engagements at Brest.

History records that we did not capture Brest. Why? It is interesting to ponder briefly over the "ifs."

In midafternoon Thursday, August 3, CCA on the left failed to turn west at Gael, continuing southwest on Mauron where it ran into an enemy battalion whose resistance forced a considerable deployment, and the subsequent attack and reassembly delayed CCA until late evening. In the meantime CCB, to the north, had struck only small resistance at Broon and by late afternoon had sped to the west some twenty miles beyond CCA. While observing CCA's attack at 4 p.m. the Division Commander received by officer courier a longhand order written on scratch paper directing the advance to the west to halt in place; a force to be dispatched to capture Dinan (which CCB had hit the day before, driving in the outpost; then, confronted by a strong defense and an impassable river gorge, had bypassed). We never learned the reason for the order. The following day (August 4) the order was revoked at noon, but CCA had already moved out toward Dinan to its right rear and it was evening before the advance could be resumed. This loss of twenty-four hours allowed enemy reinforcements to reach Brest including a new commander.

The second "if" was a tactical incident. In order to avoid large towns which were known to be garrisoned, and to approach Brest by routes where no terrain obstacles existed, both columns cut northwest from the Carhaix area, crossed the main north coast highway between Morlaix and Landivisian, turned west and struck Brest from the north and northeast. Due to terrain difficulties and some resistance CCA on the left was behind on August 7, when CCB in spite of greater distance and considerable opposition, hit the outer defenses of the city northwest of Gouesnou. As it proved later, CCB hit the strongest enemy position while the "gate" was relatively open to the northeast on that day. If CCA could have hit on the 7th the surprise would have been complete, and there is a strong possibility that it could have forced its way in along the route by which the 2d Division eventually became the first unit to get into the city over six weeks later. Before the entire division could be in position for a coordinated attack on the 9th, the Germans had "closed the door" and the 266th German Division from Morlaix was behind us as will be told later. The opportunity for a sudden seizure of the great Brittany port city was gone.



Never had a maneuver enjoyed better weather than our operations since the breakthrough. In addition, the bright full moon of the first week in August made it possible to operate in strange country at night. We would have advanced every night if it had not been for the exhaustion of the troops. As it was we marched all night August 4-5, after the delay caused by the order of the previous day, trying to make up time and get to Brest "by Saturday night" as General Patton wished. The German 2d Paratroop Division at Carhaix blocked that ambition by forcing both columns to detour that city, and both had stiff fights on August 5 and 6.

The Division CP had marched 229 miles in seven days, when just before dark it set up in the high hedge bordered fields three miles southwest of Plabennec. For two days we had carried our wounded forward because it was too far and too unsafe to send them to the rear. Army had pushed gas up to Pontivy, but for many supplies we had to go to the Avranches area. Corps was completely out of contact. We had lost all of our cub planes, mostly from poor landing fields. Even the band had been engaged in a fire fight defending a gas dump successfully. Messengers were lost, killed or captured on the long line of "communications."

Yet on Tuesday the 8th, one week after Avranches, the tired troops prepared for the assault on Brest in the morning.

CCB on the right was to become reserve and shift to the rear of the center in the morning. The commander of CCB took over the center column which had had only one battle since Bree on August 1, and was to attack through Gouesnou. CCA was to attack through Guipavas. The artillery, a total of five battalions, was posted to support all guns being able to reach the city.

One battalion of CCA suffered losses from artillery during the afternoon, and the artillery received counterbattery as it registered in the evening. In the meantime the cavalry was covering the flanks and rear. Intermittent small-arms fire to the north and northeast was heard during the day. The trains moving into Plouvien were

fired upon by small arms and artillery from the rear! Something was building up in the north. The absence of cub planes and the presence of the highest hedges we ever encountered made visual observation extremely difficult. About dark—10:30 p.m.—the mystery was solved by the capture of Lt. General Spang, Commander of the 266th Division, who drove his car into an artillery position from the rear. His division which we by-passed at Morlaix was marching toward us from the rear trying to get to Brest! All through the night small-arms fire burst from every hedgerow around the division CP, the PW cage and all along the rear.

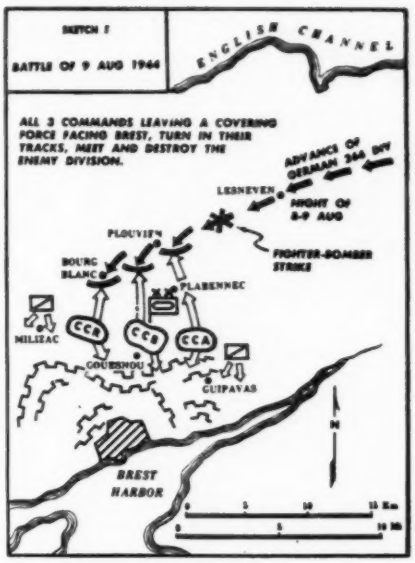
That proved to be the final "if" in our failure to capture Brest. Orders were issued during the night for all commands to leave a screen facing Brest, to reverse their directions, attack north in the morning, destroy the enemy in our rear and secure and assemble in the Plouvien area.

The battle of August 9 was a massacre. CCB in the center, led by 15th Tank Battalion and the 9th Infantry hit the enemy main body (896th, 897th, and 898th Infantry), killed over 200 and captured 1000. CCR on the west (now the left) flank struck an enemy column at Bourg Blanc where the 50th Infantry with some of the 69th's tanks destroyed the heavy weapons company of the German 851st Infantry, other mortars, machine guns, and an 88. CCA on the other (east) flank with the 68th's Tanks and the casualty-depleted 44th Infantry caught part of the enemy at Plouvien and completed the debacle. A group of our fighter bombers joined in the action and completely wiped out a column of enemy trains and artillery on the Plouvien—Lesneven Road.

The remnants of the German division were gathered in during the ensuing two days. Our artillery enjoyed the unique experience of having some batteries firing south against Brest, and some north at the same time. The cavalry which had covered the division rear during the all-night skirmishing pulled to the flanks and extended the cordon about Brest preventing the Germans from entering or leaving the city.

On the afternoon of August 9, a battalion of the 28th Infantry, 8th Division, arrived by truck from Rennes and was given the mission of securing commanding ground near Guipavas to cover our projected renewal of the interrupted attack on Brest. The same day Task Force "A," of VIII Corps reached Lesneven, and although unable to assist in the Brest operation, was a great protection to our rear and covered the debarkation of supplies at the now enemy-evacuated Morlaix. But further attack on Brest was not destined for the 6th Armored. Before readjustments had been completed, orders arrived August 12, to merely contain the fortress with a single Combat Command and move the balance of the division to Lorient.

The speed, determination and skill of the units of the 6th Armored Division in its advance on Brest August 1-7, 1944, were unexcelled, particularly when it is



realized that every man knew we were completely on our own, surrounded by an enemy vastly superior in numbers, albeit of inferior mobility. To this is added that amazing battle of August 9, when the division, in position for an attack at daylight, was reversed 180° and attacked to the rear at the same hour and completely annihilated a less mobile enemy division.

The division losses for the period of this narrative: killed: 130, wounded: 398, missing: 70. Combat vehicles lost: 50, other vehicles: 62, guns: 11. Enemy captured: 3,715.

Some conclusions which we drew from this campaign as applicable to a highly mobile unit operating against a less mobile enemy are:

A rapid advance is automatic flank protection. Only when you halt must you specially protect flanks.

Deployment must be automatic when the head is stopped, it must be fast, wide and bold.

If you are more mobile than the enemy, never waste your time butting into stone walls.

Everybody must know how to fight. Our bridge company at the rear of the trains captured many prisoners by skillful, stealthy footwork and use of individual arms. Our band leader manned a tank and drove off an enemy raiding party. All elements of Division Headquarters were in repeated fights.

Fire is terrifying, but when coupled with movement it is doubly so. That is why mounted action with guns blazing is so effective.

Falaise Gap, Mortain and the dash toward Paris held the spotlight during this period so that the isolated exploits of a single division were little noted. However the operations of the 6th Armored Division in Brittany can well be considered a classic example of a separate division in exploitation. The lessons learned were put to good use eight months later when the same battalions planted their flags 800 miles east "as the crow flies" on the Saxony hills beyond Chemnitz.

SPECIALIZED ARMOR*

AFTER the Dieppe raid there was a feeling that the time for the invasion of the Continent was approaching. But before it became possible, a great deal still remained to be done. It was imperative to be able to guarantee the success of the colossal project of putting ashore Armies able, not to hold their own against any Armies Germany could put against them, but also, in the course of a short campaigning season, to drive those Armies back into Germany. Failure to do so would have had disastrous consequences. None of the plans and preparations, however successfully contrived, would have profited the Allies unless they could, by their tactics and with the help of their special material, fight their way ashore at zero hour. It was this that presented the most sensational departure from the methods of the past.

The experience at Dieppe provided the starting point. This combined operation was planned on accepted textbook principles. Infantry and engineers were to land under heavy air and naval fire support. The former were to secure a bridgehead with the least delay while the latter worked to clear obstacles and so open the path inland for the succeeding waves of tanks. The result, as is well known, was disastrous.

Solutions Evolved

The lessons were studied and solutions evolved. The necessity for the heaviest preliminary support by bombing, by supporting fire from guns or rockets on special craft out at sea and by the fire of ship's guns, was accepted. A special formation was organized in order that a new assault technique might be developed under one guiding hand. An armored division was chosen to provide the personnel.

The first necessity was to break down the obstacles and to make paths through the mine belts. Special armored vehicles were designed. Heavy tanks were converted to carry Sappers to the obstacles, where the men got out and fixed charges to destroy them, working in the lee of the tank. Others carried 30-foot bridges which could be dropped automatically by the tank to span a ditch or surmount a sloping wall. Others carried fascines, bundles of stout chestnut stakes, to drop in ditches or craters and so make them passable by tracked vehicles. These were the Avres. "Flails," which had proved their success so well at Alamein under the name of Scorpion, were also to be employed in clearing lanes through the minefields. For the assaulting troops, yet another type of tank was evolved—the D.D. tank. Its great value was that it could swim to the shore and go straight into action. Two hundred of these tanks were to be used.

The new picture was to be radically different from Dieppe. The specially designed armor was to be in the van and to break the crust; then the amphibious tanks were to pass through; and finally the normal armor, landed from its special landing craft, were to follow. No fewer than 4,200 of these were to be used in the first fortnight in Normandy. This was the armored assault from the sea, a vital part of the Allied panoply of armored warfare.

The Assault

On D-Day, the Allies carried out their assaults on the Normandy coast with five divisions: three in the British sector and two, farther west, in the American. Two of the three divisions attacking in the British sector were British and one Canadian. In all, twenty-eight assault teams took part in the first assault of these three divisions. The spearhead of each team consisted of special armor. The assaulting infantry were carried in L.C.A.s —small assault landing craft—and supported by Royal Armored Corps personnel in the new D.D. amphibious tanks which swam ashore.

The story of the assault teams in the westernmost subsector is typical. Each of the six teams got ashore and cleared a lane through the obstacles to the lateral coastal road, a distance of some 400 meters, on the average, from the beach. In all, thirty-four of the 170 special armored vehicles which composed the twenty-eight teams were permanently knocked out, and about three times that number were temporarily disabled. Nevertheless, those that remained contributed greatly to the subsequent capture of the infantry objectives by the supporting fire of their petards and guns.

Maximum Penetration

Each of the Brigades in the British sector obtained a firm footing, the maximum penetration being about 10

*Royal Armored Corps Journal.

kilometers, the minimum about three. On the nearest American beach—Omaha beach—no specialized armor was used and nightfall saw their troops only 100 meters from the shore.

A new technique had been successfully exploited—that of the all-mechanized highly armored Army. The Germans won their early campaigns against unprepared enemies by the use of highly mobile armored forces, well supported from the air. They failed completely, however, to develop the tactics which they were the first to use. They produced, it is true, the best heavy tank on the battlefield. The military authorities of Britain and America did not enter into competition in this matter. Their plan was to land, to build up their beachhead, and then to drive an armored Army right across France into Germany. Reliance on very heavy tanks would have doubled their problems of restoring bridges—certain to be destroyed—over the many rivers of France and would have caused delay. They had only the short North European summer as their really active campaigning season and time was everything if France, Belgium and, perhaps, even Holland were to be freed before the winter. In the execution of this plan, the mobility and power of their armored divisions was to be backed up by the speed of the mechanized infantry and artillery which followed them. And when opposition or obstacles held up the flood, the specialized armor and mechanized equipment was brought in to their aid.

After the landing, the special armor did useful work in the fighting for the enlargement of the beachhead. The flail tanks were invaluable; no minefield not covered by antitank fire remained an obstacle for long. The Avres found a new mission in knocking holes in the big field banks of the Normandy bocage country, and the flame-throwing Crocodiles accounted for many strong points. Field-Marshal Montgomery, by skilful use of his armor, kept the Germans apprehensive of their eastern flank and tied down their armor there, facilitating the American breakthrough on the other flank. Examples of this were in his withdrawal of three British armored divisions into reserve on his left flank in July, and the attack of three British armored divisions east of Caen on the 18th of that month.

Speed in Attack

The speed of the British armor was well shown by their liberation of Brussels and Antwerp. The Falaise battle was not over till August 20th; on the 25th, the Seine was crossed and on the 31st, the Somme. Two British armored divisions then made a dash for Brussels and Antwerp, reaching them on the 4th and 5th of September, after having covered 500 kilometers in seven days.

When, later, the necessity arose to free the approaches to the port of Antwerp the armor and special mechanized equipment again played a vital part. Buffaloes—tracked amphibious personnel carriers which could cross water and land on soft mud—made possible tactical landings on the coast in the rear of the German defenses, thereby narrowing down their positions. When the time came for the landing on Walcheren, the special armor again gave help in the assault on the western coast. The island was fortified with every known type of defense work, obstacle and weapon, and its beaches were most difficult. The bad weather had greatly reduced the possibilities of air bombardment and, as a result, undamaged coast defense batteries caused terrible losses among the landing craft giving close support. Three-quarters of them were lost. But their support had made possible the landing on the sea wall of the armor, consisting of ten flails, eight Avres, four Bulldozers and two Shermans. Of these, seven survived the landing and reached the village of West Kappelle, making possible its capture by the Marine Commandos. Four only then remained and these enabled the Commandos to clear the remaining gun positions and defenses of the western coast of the island.

Yet another chance came for this armor. Part of the plan for seizing the left bank of the Rhine, preparatory to its crossing, was the attack of the Canadian Army, southeast of Nijmegen, through the Reichswald to take Cleves, Goch and Xanten. This attack took place in February, when the country was almost impassable. Here yet another special vehicle was introduced, the Kangaroo, a fully protected tank chassis for carrying infantry to the assault. Without Buffaloes and Kangaroos, no infantry could have moved to the attack in this terrain. But with their help, in addition to that of flail tanks and Crocodiles, this attack defied the conditions and the defense, tied down to their works, was gradually worn down.

A Formidable Obstacle

The operation for the crossing of the Rhine on the British front was another ingenious combination of mechanization on land and water. This formidable obstacle was 300 meters wide, with difficult banks. The assault was more comparable to the Normandy landing than to a land attack. Its scale can be judged by the fact that the Buffaloes alone made 4,000 journeys carrying the assault elements of five divisions. Enormous numbers of D.D. tanks, and even naval craft brought overland, were used. It was preceded by artillery fire unprecedented in the war and assisted by large-scale airborne landings by day and night in the early stages of the attack. It was completely successful.

This success let the armored divisions of the 21st Army Group into North Germany. This time, most effective arrangements had been made for their maintenance and, though centers of resistance held out strongly, the Germans were completely unable to form a connected front against them. The crossing of the Elbe followed the pattern of that of the Rhine and the British Army reached the Baltic. By then, the Russians were in Berlin and the war was over.

Armored Division Associations

1st Cavalry Division

The second anniversary of the liberation of Manila by American troops was celebrated in Tokyo on February 3, with a military review, in which thousands of new, young replacements for the combat veterans of the Pacific marched for the first time on the Imperial Palace grounds in Tokyo.

This review commemorated the famous "Flying Column" of the 1st Cavalry Division that pushed 100 miles in 66 hours through enemy-infested Luzon territory to smash an entry into war-torn Manila.

A new First Cavalry Division theater has recently been opened at Camp Drake, which will show the latest product from Hollywood nightly at 15 cents per person. Named the Drake Theater, the show house is the auditorium of the former West Point of Japan, where Camp Drake is located.

Signal Corps Photo

Soldiers of the First Cavalry Division, who are making a career of the Army, get a handshake from Lieutenant Colonel Willis G. Ethel just prior to their take-off by plane for the United States to conduct a whirlwind four months' tour of the country looking for volunteers to serve with the Division. Left to right, the men are: William L. Primm, Everett L. McCormich, Raymond R. Combs, James Ward, Carl R. Butts, and Henry C. Cecil.

2nd Armored Division

Among the growing charter memberships of the Second Armored Division Association is the name of Brigadier General S. R. Hinds, according to Captain George M. Warren, acting G-1 of the Division and secretary of the Association.

General Hinds commanded Combat Command B at the crossing of the Elbe and the capture of Madgeburg.

Signal Corps Photo

This bronze plaque, set in a massive rock in front of the Eighth Cavalry Headquarters, in Tokyo, tells the story of the famous regiment, and is dedicated to the dead of the unit.

He declared himself much in favor of the Association in his letter to Captain Warren and volunteered to assist in its growth in any way.

Letters requesting membership continue to arrive from former members of the Division, both overseas and in the United States.

Writing of the Association's constitution and by-laws is in the finishing stage. Copies will be mailed to all members for their approval in the near future, after which progress and accomplishment of the Association can proceed at a more rapid pace.

Many members have inquired as to the strength of the Second Armored Division as it now stands at Camp Hood, Texas. Combat Command A, in trim and up to strength, is made up of the 66th Tank Battalion, 41st Armored Infantry Battalion, 14th Armored Field Artillery Battalion, and a company each of medics, engineers, and ordnance.

Major General Leland S. Hobbs is commanding general of the Division and Brigadier General John H. Collier commands Combat Command A.

Membership in the Second Armored Division Association, which is open to past and present members of the Division, and information on obtaining a copy of the Division History may be had by writing Captain Warren at Division Headquarters, Camp Hood, Texas.

5th Armored Division

The first edition of the *Fifth Armored Division News* has been printed and copies mailed to approximately 7,000 former division members whose addresses are available. A few more are on hand for future distribution. This publication outlines the aims and policies and present status of the Division Association.

Harry Entrekin is organizing a committee in Chicago to set up a division convention for that city in September of this year. More news about this as it comes in.

* * *

11th Armored Division

The officers of the 11th Armored Division Association wish to thank all members who have written the National Headquarters expressing their good wishes and enthusiasm for the Association. Thanks also go to those members who have sent in comments and suggestions on the plans outlined in the recent Newsletter.

Major General Edward H. Brooks, former commander of the Division, has written the following letter to the Association Secretary:

HEADQUARTERS SEVENTH ARMY
OFFICE OF THE COMMANDING GENERAL
ATLANTA 3, GEORGIA

Colonel Willard A. Holbrook, Jr., Secretary,
Eleventh Armored Division Association,
1719 K Street N.W.,
Washington 6, D. C.

Dear Colonel Holbrook:

I have learned with much pleasure that the Eleventh Armored Division Association is actually in being.

We who were privileged to serve with, and guide, these splendid young Americans who formed the Thunderbolt Division will always cherish the memories of their accomplishments in training and in battle. Their deeds should be perpetuated, and no finer instrument exists for this purpose than such an organization as has been formed.

May I congratulate you and your co-workers on your accomplishments to date, and wish you all good fortune as you plan for the convention in Chicago where memories may be refreshed and friendships renewed and strengthened.

Faithfully yours,
EDWARD H. BROOKS,
Major General, USA,
Deputy Commanding General.

Among other interesting letters received was one from Mr. Paul J. Christensen, 4510 Drexel Avenue, Minneapolis, Minn. (father of Paul J. Christensen of the 63d AIB who was killed in the Rhine drive on March 18, 1945) enclosing a check in the amount of $5.00 and asking for the privilege of becoming an "honorary" member of the Association, as a tribute to his son. He would like very much to meet and talk with some of his son's buddies in the 63d AIB.

Word has been received from former Pfc. Paul V. Thevenet of the 21st AIB, that he is attending Lehigh University and has recently taken unto himself a bride, the former Miss June E. Lewis of Maplewood, N. J. We had the pleasure of a personal visit from Mr. B. B. Melgaard of the Milwaukee Railroad, father of Sgt. Warren H. Melgaard (22d Tank Bn.) while he was in Washington recently on business, and he has offered his assistance, together with Warren, in helping to locate the rosters of the 22d Tank, by writing to buddies of his son. At present we have only the Hqs. and Hqs. Co. of the 22d Tank, which was mailed to us by Walter D. May of Mendenhall, Miss. We have contacted former C.O.s of the other Companies in an effort to locate the other rosters. Anyone knowing how we can get the rosters of the 575th AAA Auto Wpns—the 492d AFA and the 133d ORD—please get in touch with us.

Some interesting comments in letters we have received are the following:—from Patrick J. Lisa of Hoboken, N. J. with regard to the Division History . . . "Put out a book that would make each and every one of us proud to own one. You can also include acts of heroism that were performed by the men of the Div. I mean real heroes, not phonies, where a man did something beyond the call of duty—not like getting a bronze star for fixing a flat tire within two miles of the front lines. Give us the real stuff." . . . Victor M. Burton (705th TD) of Albion, Mich. writes in part . . . "Let's stay out of politics and race riots, keep our noses clean and remain long, strong and loyal in friendship. If we must indulge in any 'isms' let us learn what real, unselfish Americanism is; then study and practice it without feeling that we have to pat ourselves on the back. There's more to it than that. Here's my dollar; the only kind of buck to pass and the best of luck toward what should be one of the sturdiest and cleanest of deeply rooted, tough fibered and well bred organizations ever founded." . . . A suggestion comes from Clif Darling of Madison, Wisconsin . . . "that consideration might be given to foreign officers who were associated with the Division for some time, also persons in France, Belgium, etc., who were particularly nice to us as a group or individuals—to offer them 'honorary' or 'associate' memberships in the association."

An interesting message from William M. Ewing who is back in Austria as an American businessman representing American Relief to Austria, tells us that "he would be only too glad to do anything we might wish in the nature of aid to the association from over here. There are still a few '11th' patches to be seen in both Salzburg and Vienna and they still say in Gmunden that times have never been the same since the Eleventh pulled out." . . . A message from Marvin H. Barnes (Trains) to Ted Cronyn reads . . . "In my opinion, there was no finer division in the ETO than the 11th and it did its job well. Never in my life have I met a finer group of men (both commissioned and enlisted) and I am proud to still be in contact with a number of them. We fellows of Finance, have been doing right well in keeping in contact with one another."

* * * * * * *

Many members have inquired about the ETO Booklet and plans are being made to mail these out to mem-

bers together with paid membership cards and a windshield "sticker" advertising the "Reunion" in Chicago —just as soon as all the changes of addresses are completed in the files. About one out of every three had to be changed, which is quite some task.

We ask those of you who have not sent in your membership dues, to do so as soon as possible as the association needs all the help it can get—both financially and spiritually. We expect to get the Division History into the hands of a publisher in the next couple of weeks and should have some definite idea of when it will be available to those who want it, by the time our next Newsletter goes out.

Plans are now being made for a get-together of the Chicago members, says Bill Lipp in a recent letter. Bill has been helping with the convention arrangements and the Congress Hotel is where the reunion will be held. The hotel will shortly contact members who have indicated that they would like to attend the convention, regarding individual reservations. Bill also informs us that he is the proud papa of a baby girl born just six weeks ago.

We plan to send you other members who are interested in organizing local chapters, the names of men in your area, as soon as we have completed our changes of address—so don't think we have forgotten all about it.

Members in and around Washington, D. C. have been invited to attend a presentation ceremony of the Legion of Merit to Brig. Gen. W. A. Holbrook, Jr. (formerly Combat Commander of the 11th and now your Association Secretary) in the Blue Room of the Hotel Hamilton on March 7 at 7:30 P.M. After the ceremony, there will be a meeting of the 11th A.D. men present, with regard to forming a local chapter of the Association for this area, and we will let you know the results of this meeting in our next "news notes" in the JOURNAL.

We have had quite a volume of letters returned to us undelivered and we plan to list all of the names and include the list with our next Newsletter to members so anyone knowing of the present whereabouts of any of the men listed, can get in touch with us. We have also received requests from members for copies of various rosters of the units, and at present, there are no extras available. These requests are being filed, and if and when we have any, we will be pleased to mail them to you. Anyone wishing a friend's address may write the Association offices and we will be glad to check our files and send you the information we have.

Again, too, the ARMORED CAVALRY JOURNAL wishes to thank the many members of the 11th who have subscribed to the JOURNAL and we will be very happy to receive anything in the way of news that you think other members of the Division would like to read, to be published in this column. . . . So long . . . see you in the next issue!

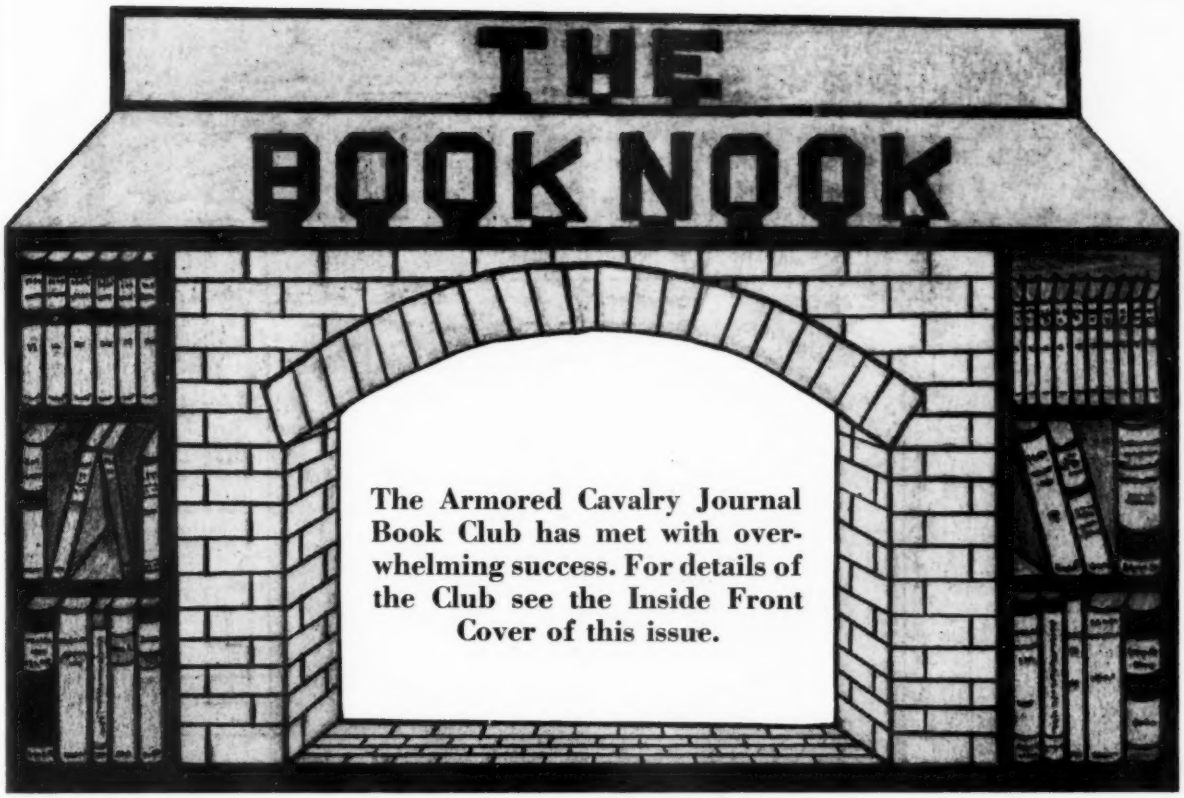
14th Armored Division

The B-Bag of several European editions of *Stars and Stripes* served as a medium for many men to voice complaints about their officers, their units, and conditions in general. The 14th Armored Division never made these columns and the reason can best be explained by quoting an extract from a letter recently received from a veteran in connection with the Association: "Please be assured that I am very, very proud to have been a member of a darned good, fighting outfit. The 14th commanded the respect of every soldier I have ever spoken to. I know the men who died, from my own 'E' Troop, 94th Cavalry Reconnaissance Squadron, and all the many outfits of the 14th, will be pleased to learn, in their own particular Heaven, that the 'Fighting 14th' will continue to live on in the hearts of their buddies." Letters of this sort are the rule rather than the exception.

It was gratifying to learn that veterans of the 14th residing in the vicinity of Los Angeles have organized a 14th Armored Division Post of the American Legion. Al Siegel is Adjutant. Dan Iannella and some of the others are organizing small units clubs in the various cities.

It has been almost two years since the war ended in Europe. The 14th veterans are scattered around the globe. Some 17 officers have been tendered commissions in the regular army, including Bill Golden, Joe Harrison, Dick Neuman, Bob Edwards, Carl Keiser, Paul Fromer, Joe Lambert, and others. From a percentum standpoint, this is an exceptionally fine record. Dan Hudelson, Reserve Commander, has recently been confirmed by the Senate as a Brigadier General, California National Guard. All the veterans applaud this selection.

To account for the other 25,000 men that served in the Division during the war would require a complete review of the occupational and professional fields. The range extends from a New England chimney sweep to a movie actor, from a graduate law student to a circuit judge, from a small-town jeweler to a Wall Street broker. It is a real compliment to the sturdiness of our stock and the principles of our society, to see so many men who yesterday were merciless killers and who today have reconverted to peaceful pursuits. Remember the unkempt, fiery captain that led one of the first patrols into the Siegfried Line to measure the dragon teeth —he is a quiet, retiring and unassuming broker who never mentions war; or the lieutenant who took the company when the captain was killed and led it into some of the bitterest close combat of the war—he is a small-town, religiously minded, jeweler; or the artilleryman who pounded the jammed column of men, horses, and vehicles into oblivion—he is a soberly dressed judge. It could go on and on.


THE
BOOK NOOK
The Armored Cavalry Journal Book Club has met with overwhelming success. For details of the Club see the Inside Front Cover of this issue.

I FOUGHT WITH CUSTER. THE STORY OF THE LAST SURVIVOR OF THE BATTLE OF THE LITTLE BIG HORN. As told to Frazier and Robert Hunt. Charles Scribner's Sons. $3.50.

The defeat and massacre of Lieutenant Colonel George A. Custer and five troops of the famous Seventh Cavalry at the fatal battle of the Little Big Horn on Sunday, June 25, 1876, will always be one of the great moments of heroism, tragedy, and mystery in American history. There was no white survivor of Custer's part of the disorganized and badly mismanaged battle.

In Captain Benteen's troop of the Seventh Cavalry, however, was Sergeant Charles P. Windolph, a German immigrant who had joined the American Army. Although Windolph did not serve with Custer in the bloody battle at Little Big Horn, he was a part of the famous expedition against the "hostiles" and saw plenty of action under Custer's command.

The first part of this new book is Sergeant Windolph's own account taken down by the authors. His story throws new light on what happened to the Seventh Cavalry, and why, on that fatal Sunday.

Following the Sergeant's story the authors have collected a great deal of absorbing material, contemporary and otherwise, about the events leading up to the massacre, the investigation that followed, and various questions about it that still remain unanswered.

✓ ✓ ✓

JOMINI'S ART OF WAR. Edited by Lieutenant Colonel J. D. Hittle, USMC. The Military Service Publishing Company. $2.50.

Modern militarists have long considered Clausewitz the preeminent European military thinker. His disciples have so skillfully conducted their advertising campaign that it has eclipsed the memory of the very high esteem in which Jomini was held, and the brilliant contributions he made to analyzing and codifying the art of war.

Indeed, until after the American Civil War (Stonewall Jackson died with a copy of Jomini's *Art of War* in his saddlebags) Jomini was considered the premier military writer, and Clausewitz a cloudy theoretician.

Colonel Hittle here refurbishes an unjustly tarnished reputation. He disproves conclusively the facile criticisms of Jomini launched by Clausewitz idolators. With insight and candour, Colonel Hittle analyzes Jomini's *Art of War* in his searching forward. He concludes that Jomini, as a thinker and analyst, is the equal of any, and the superior to many better known writers.

The only deletions from the text have been tactical considerations that are completely invalid today. Jomini's theory and analyses have been retained entire.

✓ ✓ ✓

SOLDIERS' ALBUM. THE SHAEF PICTORIAL HISTORY OF THE WAR IN EUROPE. By Colonel R. Ernest Dupuy and Lieutenant Colonel Herbert Bregstein. Houghton Mifflin Company. $5.00.

This is a nine-by-eleven, 150-page pictorial history of the war in Europe. It succeeds in capturing the sensations of war with great clarity and for that reason well and deservedly may be more widely read and preserved than a straight text.

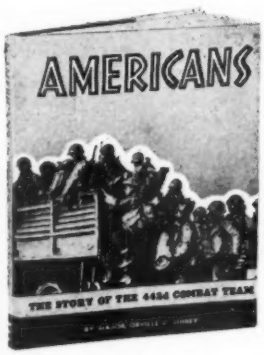
Beginning with the preparations for the invasion of Normandy, the story of the assault, penetration, and collapse of fortress Europe unfolds in a cascade of indelible pictures that recall with equal poignancy the sounds and smells as well as the visual scenes of battle.

AMERICANS

The Story of the 442d Combat Team

By MAJOR ORVILLE C. SHIREY

$5.00



This book, written primarily for the Japanese-American members of the 442d Combat Team, deserves a place on the bookshelf of every American who is interested in how these Americans repaid the nation that very nearly repudiated them, for it is the story of why our democracy works.

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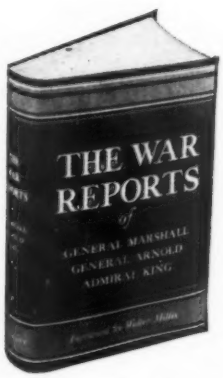

The War Reports is an original war record nowhere else available in equal detail and completeness. It contains the complete running history of the war as provided by the three top commanders of the armed services of the United States in their official, illustrated reports to the American people.

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Armored Cavalry Journal

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GERMAN SCIENTIFIC ESTABLISHMENTS. A Report by Colonel Leslie E. Simon, Ordnance Department. Mapleton House. $4.50.

This report covers German scientific activities associated with Ordnance which were conducted in central Germany west of the Elbe River. The report was only released after some parts were blacked out, because they contain restricted information.

✦ ✦ ✦

THE OFFICIAL PICTORIAL HISTORY OF THE AAF. By the Historical Office of the Army Air Forces. Duell, Sloan & Pearce. $10.00.

This superb pictorial history is official, as the title indicates, but it is also far more than that—something new in the form of official history. It has been made possible by several years of coordinated work by a corps of AAF specialists, directed and counseled by veterans of the AAF from top generals on down.

As a result, this official history is several books in one. It is the first complete graphic record of the development of American military aviation. It is a story of the scientists and workers and industrialists whose "know-how" made U.S. air power possible.

✦ ✦ ✦

ST. LO. By Historical Division of the War Department. Government Printing Office. $1.25.

St. Lo is the twelfth volume in the "American Forces in Action" series published by the Historical Division of the War Department and released through the Government Printing Office for public sale.

This history gives an account of the part played by XIX Corps in the First Army advance from Normandy Beachheads to the south. St. Lo, a communications center on the Vire River, had to be captured to secure a favorable position for further movement. The actions of the 29th, 30th, 35th, and 2nd Infantry Divisions, and the 3rd Armored Division related in this volume form only part of an operation which eventually employed 12 divisions.

The First Army had the mission of attacking across country to the east of the Vire and penetrating a deep belt of German defenses. The ultimate goal of XIX Corps was high ground to the east and west of St. Lo. To reach this objective, XIX Corps had to fight through the hedgerows which crisscrossed the country and afforded the greatest advantage to German defenses.

From July 7 to July 20, 1944, XIX Corps battled through hedges, over high embankments and down sunken roads and finally seized the town of St. Lo.

✦ ✦ ✦

BATTLE STUDIES. By Colonel Ardant du Picq, French Army. Translated from the Eighth Edition in the French by Colonel John N. Greely and Major Robert C. Cotton. Military Service Publishing Company. $2.00.

This famous book on the psychology of battle was written almost three-quarters of a century ago by an obscure French Colonel. It is a luminous statement of the principles of battle.

Du Picq was a practical soldier. He died in action on the eve of the decisive battles of Gravelotte and Sedan, which

YANK:

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by the staff of Yank, The Army Weekly

Here for the first time since wars began, soldiers themselves have put down in powerful, simple language and captured in memorable pictures the complete story of a war.

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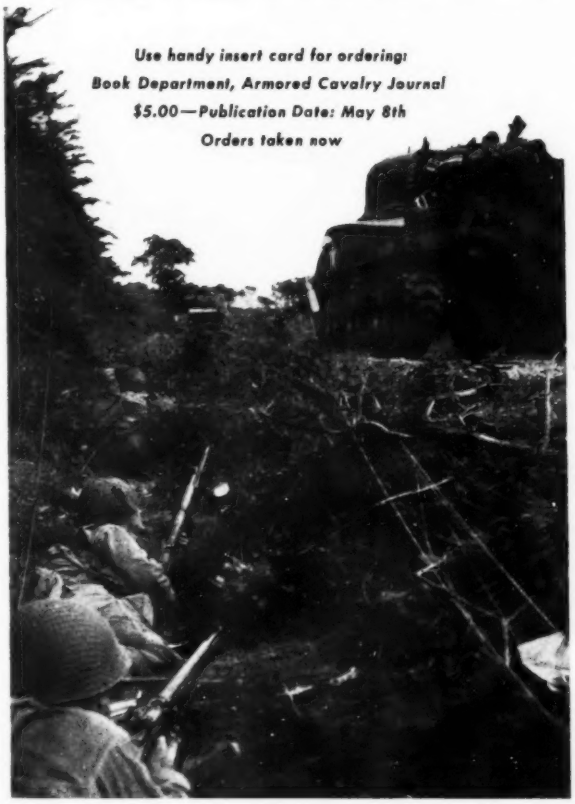
John Mason Brown, noted author and critic, says "No rosemary offered for remembrance was ever made of tougher, more muscular, or prouder stuff."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The drama protrayed in this book is complete with all its violence, pathos, fatigue, and that incredible mixture of confusion and skill inherent in every victorious army.

Above all, *The Soldiers' Album* is a fair and vivid appraisal of the defeat of the Wehrmacht on the Western Front.

SMALL UNIT ACTIONS. Historical Division, War Department. Printed by the Government Printing Office. $1.25.

"*Small Unit Actions,* eleventh in the series of monographs on American operations in World War II, marks a departure from earlier numbers in that series. It presents, instead of a coordinated treatment of a larger operation, four detailed narratives dealing with small units which took part in such operations," according to the book's introduction.

The book is divided into the following four sections: Pointe Du Hoe (2nd Ranger Battalion. June 6, 1944); The Fight on Tanapag Plain (27th Division, July 6, 1944); Santa Maria Infante (351st Infantry, May 11-14, 1944); and Singling (4th Armored Division, December 6, 1944).

This book of 212 pages is profusely illustrated with action photographs and maps.

MANNLICHER RIFLES AND PISTOLS. By Walter H. B. Smith. The Military Service Publishing Company. $5.00.

Walter Smith—the world's outstanding arms writer—hits the mark again with another unique weapons book.

This time he covers in detail the 40 famous Mannlicher rifles and pistols treasured by sportsmen and soldiers the world over—the first time that a complete description of these renowned weapons has ever been made. And another first are the 119 unique Von Kromar drawings. They are based on the official records of the Steyr Armory in Austria —manufacturers of the Mannlichers—which were obtained from the factory just before the Russians took over.

Mannlicher was so far ahead of his time that his inventions have been largely forgotten. Present manufacturers pride themselves on "modern developments" that were old in 1900. Our Garand, Winchester Carbine, Browning Machine Gun, Savage and Johnson Rifles all use principles first developed by Mannlicher.

CASABLANCA TO KATYN. THE SECRET HISTORY OF THE WAR. Volume III. By Waverley Root. Charles Scribner's Sons. $5.00.

This volume continues the fascinating account of the undercover diplomatic and political maneuvers of World War II which Waverley Root brought up to the end of 1942 in *The Secret History of the War,* the two volumes so generally acclaimed by the critics. But it is more than a mere sequel. It is a self-contained work in itself, given a particular unity both by the period it covers and by the underlying motif which dominates it. This motif is sounded in the first chapter. "Germany's 1942 Strategy," whose thesis is that, with the defeat at Stalingrad, Germany realized that the military war was lost, and turned her efforts from that time forward to winning it politically, economically and psychologically.

The book ends with a final chapter on Germany's greatest coup in this campaign, the exploitation of the Katyn massacre, which led to the breaking off of diplomatic relations between Poland and Russia.

Mr. Root presents much material hitherto unpublished in any book—the Nazi plan to go underground with defeat, the intrigues which pitted Giraud against de Gaulle in North Africa, the manner in which General Nogues pulled the wool over the eyes of American authorities in Morocco, the secret negotiations which led to the Italian surrender, the intrigues behind Admiral Standley's spectacular criticism of Russia and a thousand and one other stories, at present either generally unknown or incompletely known.

* * *

AMERICANS. THE STORY OF THE 442D COMBAT TEAM. By Major Orville C. Shirey. The Infantry Journal Press. $5.00.

Written primarily for ex-members of the 442d Combat Team, *Americans* is a military history that will interest all.

It begins with the activation of the unit in early 1943, and ends with the unit's part in the German Occupation. In a period of less than two years, the Combat Team chalked up the remarkable record of receiving 3,915 individual decorations and 10 unit awards.

The 442d Combat Team was a great military experiment designed to prove, in the words of the late President Franklin D. Roosevelt, that "Americanism is a matter of the mind and heart" . . . and that "Americanism is not and never was a matter of race or ancestry."

The 442d fought in Italy and in France, always in the mountains and at times in places where even mules were unable to go. Its units collected seven Distinguished Unit Citations along the way, but they left over 600 dead on that way.

Americans is a book that will bring back many memories to the men who served their country with the 442d Combat Team. But it also deserves a place on the bookshelf of every American who is interested in how these Americans repaid the nation that very nearly repudiated them, for it is the story of why our democracy works.

* * *

A HANDBOOK FOR ARMY PUBLIC RELATIONS OFFICERS. The Army Information School. 25¢.

Published as a textbook for the Army Information School at Carlisle Barracks, Pennsylvania, this is the first text in its field produced by an Army agency.

The Table of Contents includes nine sections under the headings of: 1. General Principles; 2. The Public Relations Office; 3. Activating a Public Relations Office; 4. Newspapers; 5. Radio in Public Relations; 6. The Story in Pictures; 7. Magazines; 8. Miscellaneous Activities; and 9. Fundamentals of Public Relations Writing.

Although published as a handbook on public relations it is nothing more than a booklet on how to handle and obtain publicity for the army. Publicity is but a small part of good public relations either in civilian or military life.

It is reported that a larger and more extensive book on public relations is being written and readied for publication by the Army Information School. It is hoped that it will be more than just a book on how to be a good Army Press Agent.

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not only gave France over to the enemy but disclosed a leadership so inept that it awakened suspicion of treason. The French defeat, and its subsequent relegation to a second-class power, were in part due to the principles Du Picq so clearly stated in his book.

American readers will nowhere find a better statement of the fundamentals of battle, a better analysis of the human element in war, than in the pages of Du Picq's book *Battle Studies.*

Introduction to the book is written by Marshal Foch and the Preface has been written by Frank H. Simonds, author of *History of the World War, They Shall Not Pass* and others.

For the sincere student of military science and tactics *Battle Studies* is a must.

✓ ✓ ✓

CAESAR'S GALLIC CAMPAIGNS. A New Version With Introduction and Notes by Lieutenant Colonel S. G. Brady. Military Service Publishing Company. $2.50.

Caesar was a surpassing military genius. Among students and professionals of the martial art prime interest in the great Roman's career centers upon his campaigns, leading with his immemorial conquest of Gaul. The stirring record of his nine years' struggle against the warlike tribes that resisted Roman conquest in what is now France is the most famous military book in the world.

For centuries famous captains have made Caesar their mentor, and followed profitably his strategical and tactical expositions. Innumerable generations have not found their interest lagging in absorbing the stirring accounts of Caesarian exploits in Gaul, Africa, Britain and other countries where he led the eagles and legions of Rome to victory.

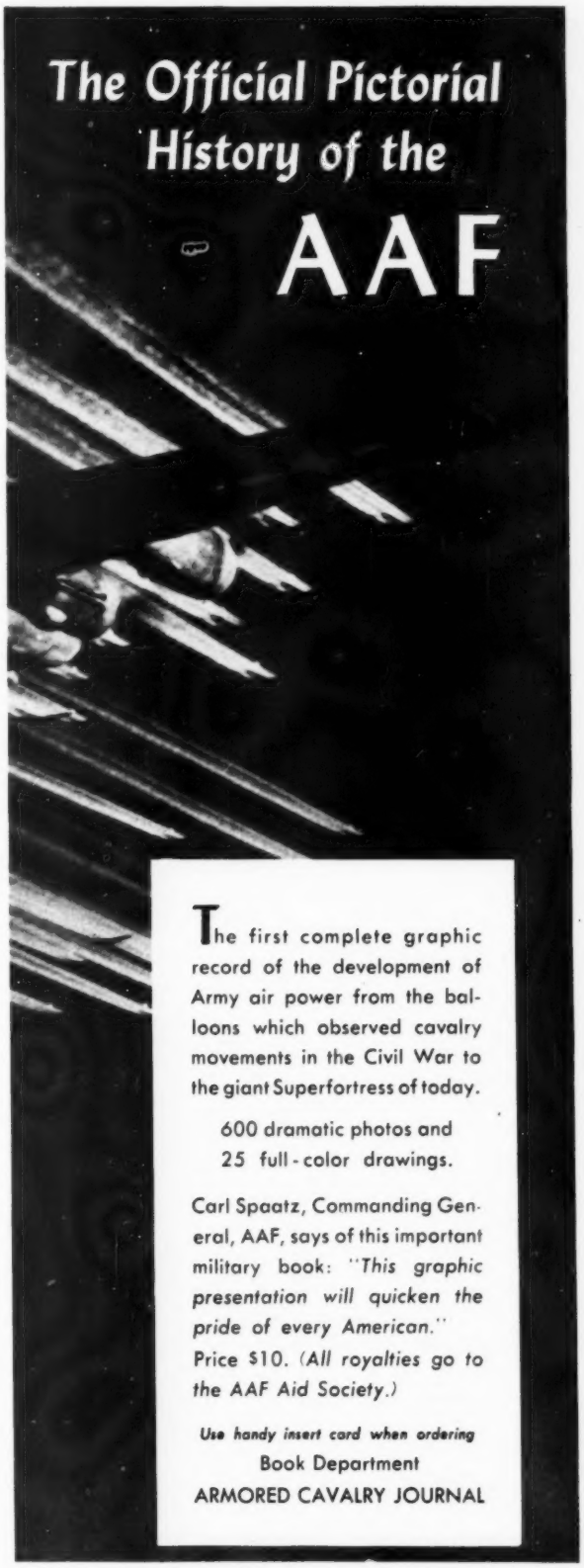
This book has maps, illustrations and interpretative notes relating to the mechanics and minutiae of Roman warfare and military organization. The Foreword compasses a comprehensive record of Caesar's life, with fascinating personal details.

✓ ✓ ✓

MERRY MIDWIFE. By E. C. Teodoresch. Houghton Mifflin Company. $2.75.

Gruff, egocentric Moshica has been midwife to two generations of the best families of an unnamed city that is unmistakably Bucharest, but might be any other old, tradition-bound city of Europe. Long years of practice have established the now retired Moshica as an unique institution. About her gravitate her lapdog, Bijou, and the lovable drudge Cornelia, and, in a wider orbit, her three card-playing cronies. Beyond these again, runs the story of Bogdan, Captain of Cavalry Guards, fisherman, and social philosopher, and his great love for Nora.

Here Fate, in the form of Grampus the scavenger, takes a hand, twisting the threads of Moshica's and Bogdan's stories into an unexpected pattern. The Epicurean Uncle Savu steps in too, and a novel rich in memorable characters, love of life, and thoughtful overtones, builds up to a vigorous dramatic finale.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All three were written by Walter H. B. Smith, and endorsed by the National Rifle Association.

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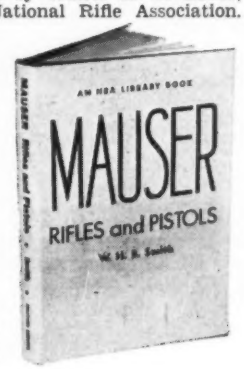

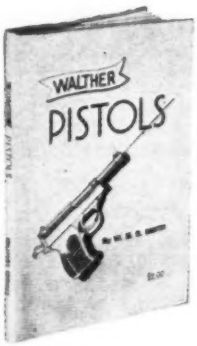

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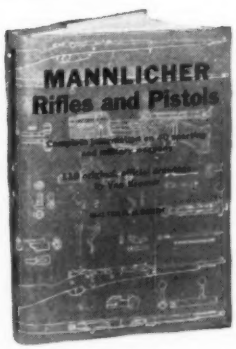

REMINGTON HANDGUNS. By Charles Lee Karr, Jr., and Carroll Robbins Karr. The Military Service Publishing Company. $5.00.

Here in this book, for the first time, is all the available information on the complete line of the famous Remington handguns.

Each model is discussed separately. Its history and development is given, it is illustrated, and then analyzed with full technical data. Tabular information under the following headings is given on each model: caliber, barrel length, cylinder, number of shots, rifling, trigger guard, sights, grips, finish, weight, distinctive features, markings, serial number, dates of manufacture, number manufactured.

A chapter on collecting and another on firing these weapons completes this careful study.

THE HORSE, HIS GAITS, POINTS, AND CONFORMATION. By Paul Brown. Charles Scribner's Sons. $1.75.

This book is a simple, direct explanation of the movements and points of the horse and it is designed to answer many of the questions which arise in the minds of horse lovers, young and old alike. For instance, how far does a good horse stride at a gallop? How far and high can he jump? What is the stride of a trotter? Or, what is a hand and where is a horse measured? All these questions and many more are answered by numerous drawings and a minimum of text.

The author, Paul Brown, is well known to all those interested in horses.

OUR FAIR CITY. Edited by Colonel Robert S. Allen. Vanguard. $3.50.

This book is a blistering, factual, incontrovertible indictment of corruption, incompetence, waste and misrule in 17 representative American cities.

Even before publication, according to the publishers, one contributor was told to leave town, one contributor's family was threatened, and one contributor was faced with dismissal from his job.

Edited by Colonel Allen, former co-author of the column "Washington Merry-Go-Round" and World War II soldier, this book is crammed full of facts and figures worth reading about and knowing.

A HISTORY OF THE AMERICAN LEGION. By Richard Seelye Jones. Bobbs-Merrill. $3.75.

Of interest to all veterans of World Wars I and II, this book was written from the records and files of the American Legion. However, the publishers maintain it is not an "official" history of the Legion and that the author was left to draw his own conclusions.

OPERATIONS IN NORTH AFRICAN WATERS. By Captain Samuel Eliot Morison. Little, Brown and Company. $5.00.

This is the first volume to be published in the comprehensive History of the United States Naval Operations in World War II. The book covers the naval events in the Mediterranean from the landings in North Africa in 1942 to the invasion of Sicily.

AMERICAN MILITARY GOVERNMENT—ITS ORGANIZATION AND POLICIES. Infantry Journal Press. $3.00.

This is the first critical and comprehensive presentation of American Military Government during and since World War II written by a historian who has been an inside observer of its operations and policies ever since the United States began to prepare for the great task of administering the civil affairs of many foreign nations.

The book tells how the Armed Forces planned the military government of Italy, Germany, Austria, Japan, and Korea and the civilian relief of the liberated Allied countries. It describes the methods employed to develop a national policy in this field and the intricate processes for achieving Interallied agreement on policies to be applied in countries under joint occupation.

Even today foreign peoples more numerous than the total population of the United States are under American control. The discharge of this responsibility is a matter of highest national concern since the achievement of American war aims both with regard to the enemy states and with regard to the future cooperation of the Allied nations largely depends on the conduct of American overseas administration. The accomplishments of American Military Government are appraised and its political motives and objectives carefully analyzed.

The book is indispensable for anyone interested in recent American foreign policy and the problems of the impending peace conferences.

HISTORY OF 30TH INFANTRY REGIMENT WORLD WAR II. By Captain Rupert Prohme. Infantry Journal Press. $7.50.

This book of 390 pages is one of the most complete regimental histories to come out of the World War II so far.

The 30th Infantry landed at Fedala in North Africa on November 8, 1942, and from there fought on through Sicily, Italy, France, Germany, and finally wound up its action in World War II on May 5, 1945, at Salzburg, Austria. During its campaigns, the regiment had suffered 8,308 casualties.

Twelve officers and men of the regiment won the United States' highest decoration—the Congressional Medal of Honor. Fifty-eight officers and men won the Distinguished Service Cross.

Here is a history of a military unit that deserves reading by every American soldier. "The history of the 30th Infantry," according to the author, "is a record of blood and valor." And so it is.

USSR, A CONCISE HANDBOOK. Edited by Ernest J. Simmons. Cornell University Press. $4.50.

USSR, A Concise Handbook is a basic, factual introduction to the civilization of Russia and the Soviet Union. Twenty-seven readable articles, by 20 contributors, discuss the peoples, territories, history, government, economy, agriculture, industry, communications, medicine, education, religion, armed forces, philosophical thought, languages, drama, music, art, architecture, and science of the Soviet Union. Each article is supplemented by an important bibliography.

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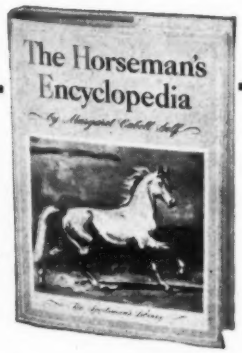

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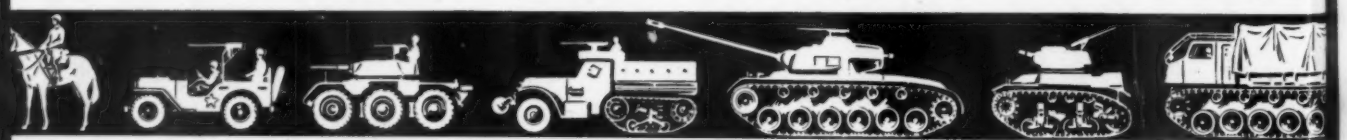
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